CIO

INNOVATION FROM OUTSIDERS
Crowdsourcing yields better answers **13**

THE RISK OF THE STATUS QUO
Don't get caught with obsolete tech **16**

PLAN YOUR CLOUD BREAKUP
Your contract needs an escape hatch **20**

MAKING COLLABORATION PAY OFF
How to wring ROI from social tools **46**

The *Great* Talent Hunt

To capture more IT pros with business skills, **award-winning CIOs** are taking radical steps to train, recruit or grow the **hybrid staff** they covet **32**

BY STEPHANIE OVERBY

PLUS

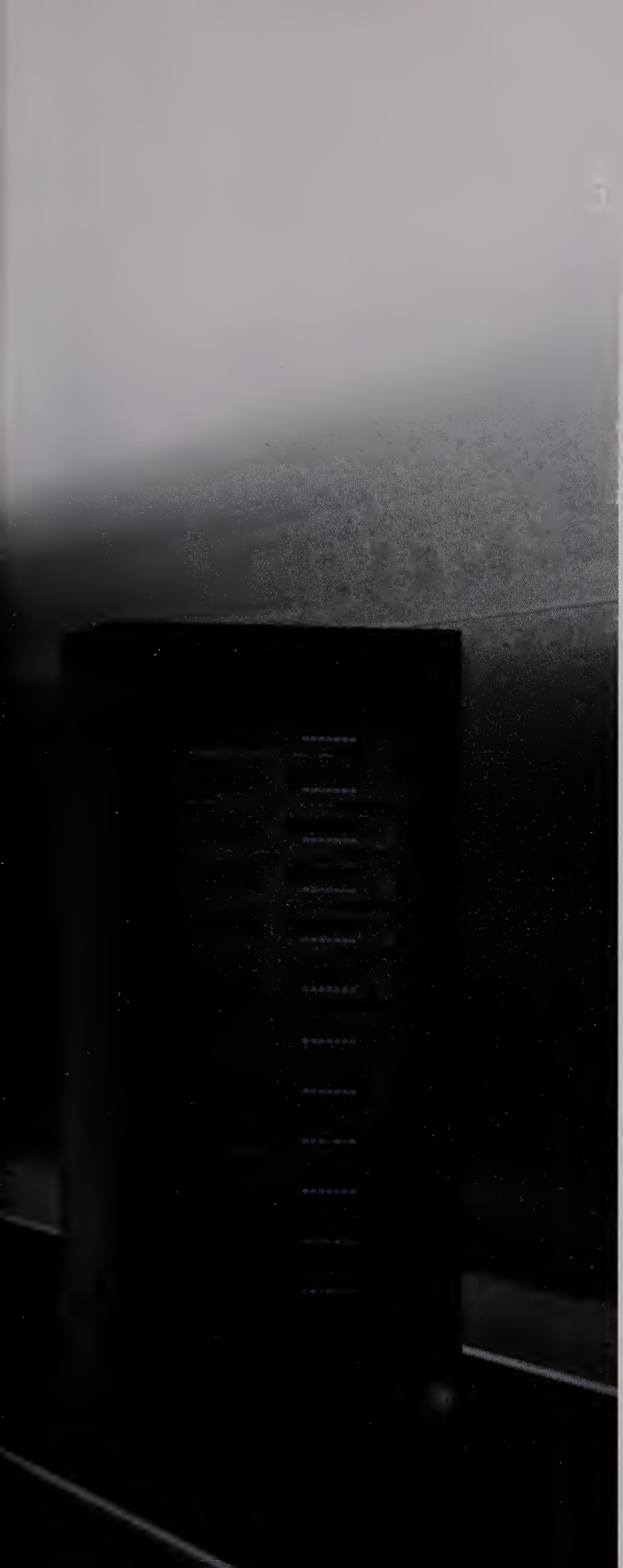
LEADERSHIP AWARDS
Find out who's joining the **CIO Hall of Fame** and who won **Ones to Watch** acclaim **36, 40**

BUSINESS TECHNOLOGY LEADERSHIP
www.cio.com
May 1, 2013 $9.00

IS YOUR DATA PROTECTED?

data. voice. network. cloud.

windstream.com/onit | 855.276.6438



WE'RE ON IT.

ENTERPRISE DATA CENTERS.
Part of Windstream's Managed Services portfolio.

windstream®
smart solutions. personalized service.

WORK / LIFE
BALANCED.

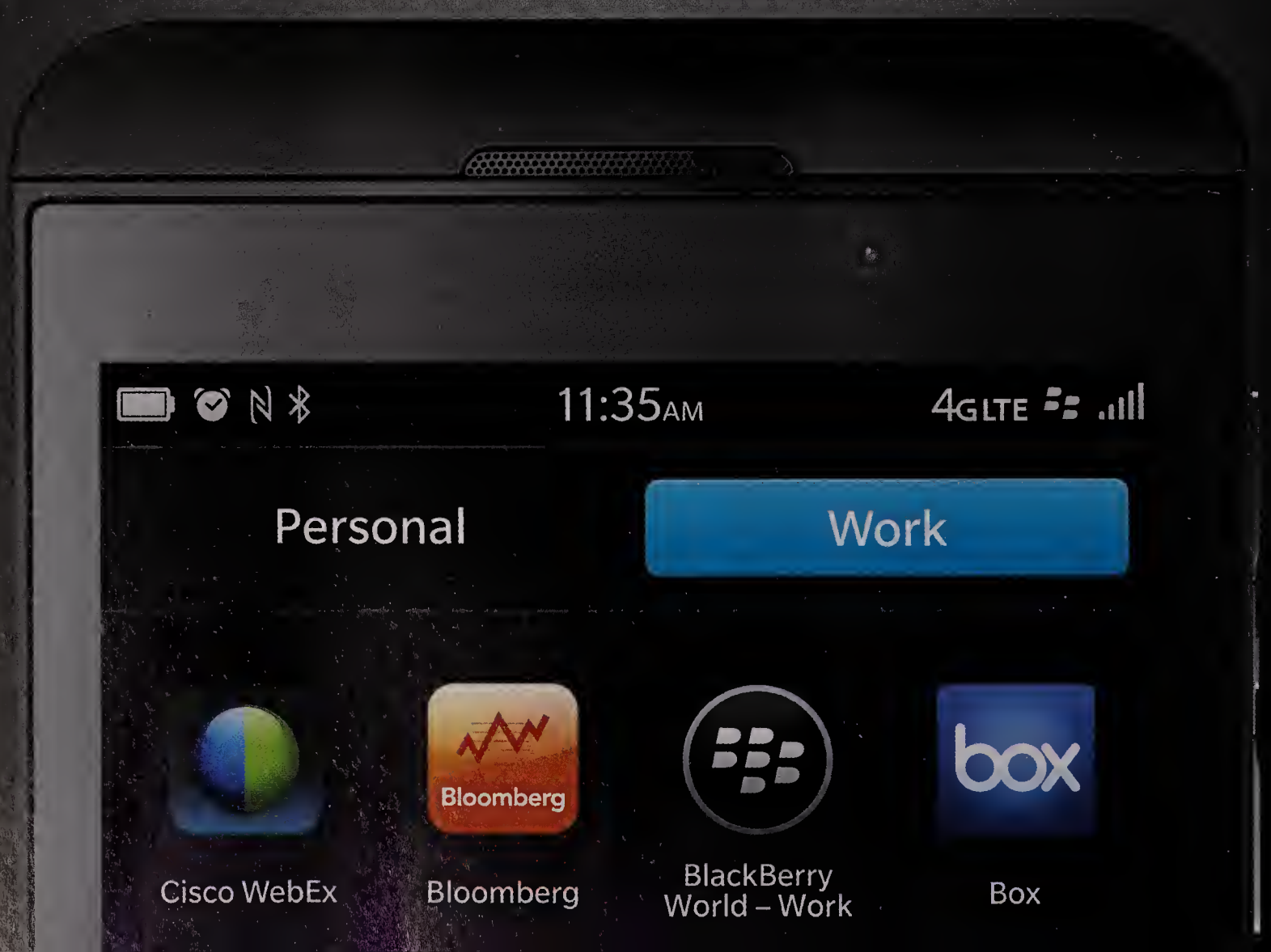
BlackBerry® Balance.™
The best of both worlds to keep your business moving.

BlackBerry® Balance™ gives employees the freedom and privacy they want while delivering a Work Space that is fully encrypted, managed and secured, so you can protect critical corporate data and apps. It's the perfect work-life balance, built into every BlackBerry® 10 smartphone and managed through BlackBerry® Enterprise Service 10.

Get the full story and a free 60-day BlackBerry Enterprise Service 10 trial* at blackberry.com/business

BlackBerry®

Keep Moving



*Limited time offer, subject to change. Restrictions apply.
©2013 BlackBerry. All rights reserved. BlackBerry® and related trademarks, names and logos are the property of Research In Motion Limited and are registered and/or used in the U.S. and countries around the world. All other trademarks are the property of their respective owners.

VOLUME 26, NO. 10 May 1, 2013

Start

From the Editor in Chief **4**
Chatter **4**
From the Publisher **6**
Career Path **8**
Quick Fix **10**

4

13

Grow

INNOVATION & BUSINESS VALUE

Inventing new analytics with crowdsourcing **13**
Attendance soars when training is a game **14**
Don't stick with the status quo; plan for 2018 **16**
BYOD spawns do-it-yourself help desks **18**

20

Run

LEADERSHIP & OPERATIONAL EXCELLENCE

Before committing to cloud, plan for the end **20**
The case for the enterprise app store **22**
Four ways to improve customer service **24**
Biometrics prevent call-center fraud **24**
How to hire a data scientist **26**
Private cloud saves cash and cuts emissions **28**
Google offers better app support–for a price **28**
Outsourcing? Think outside the subcontinent **30**

46

Connect

PEER ADVICE

How to make collaboration pay off **46**
IT must be designed to help employees help customers **50**
Racetrack tech informs and entertains fans **52**

Finish

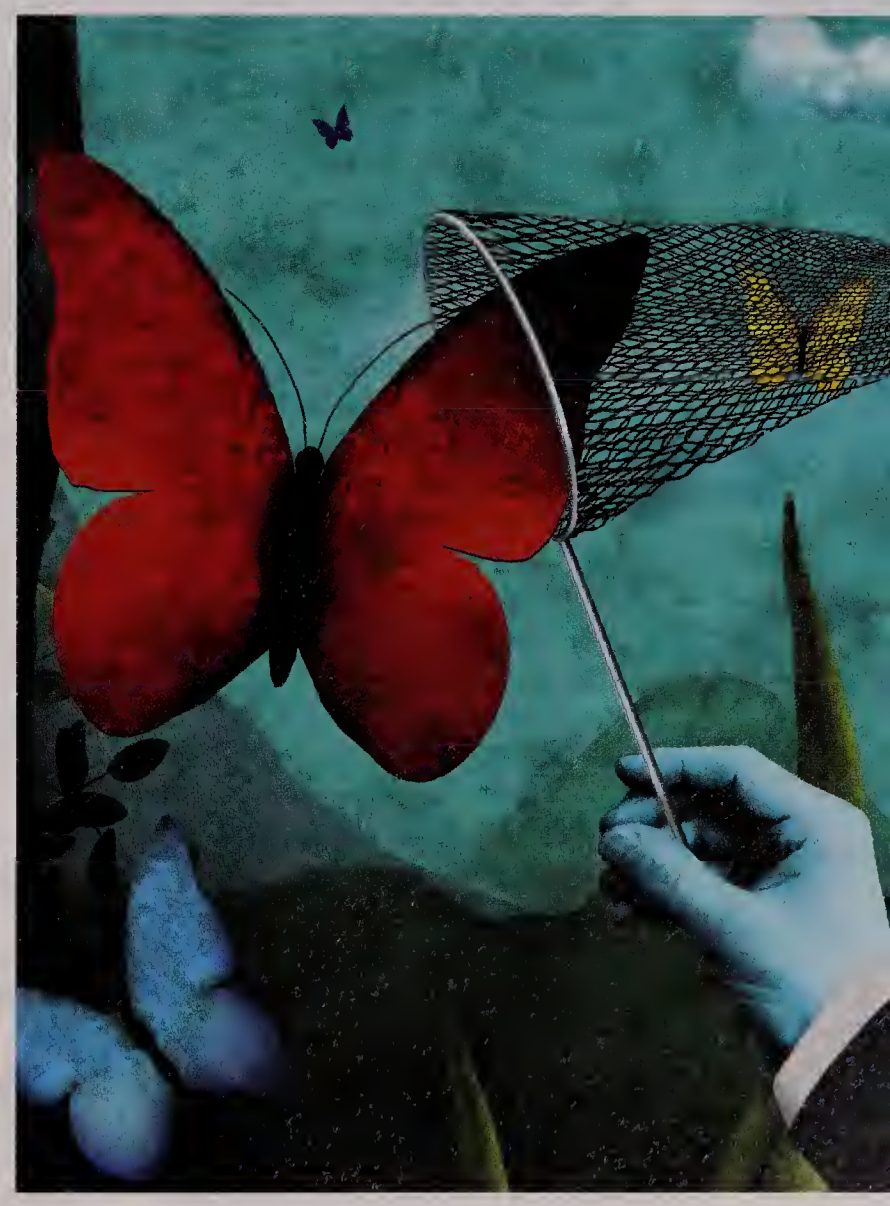
Index **54**
Take your DNA with you–on your phone **56**

56

The *Great* Talent Hunt **32**

COVER STORY To capture more IT pros with business skills, award-winning CIOs are taking radical steps to train, recruit or grow the hybrid staff they covet

BY STEPHANIE OVERBY



COVER ILLUSTRATION BY MICHAEL MORGENSTERN

FROM THE
EDITOR IN CHIEF

Chasing Unicorns

With the largest IT budget in the world at her disposal, you might think the CIO of the Department of Defense could just order up whatever IT talent she needs. Yet Teri Takai encounters the same challenge that technology chiefs in every industry wrestle with today: finding that elusive "blended" IT-business professional.

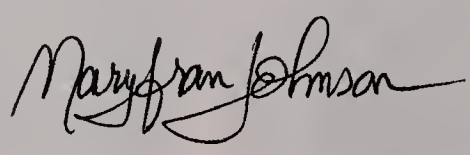
"It's hard for tech people—even middle manager on up to senior managers—to think the way that the business thinks," she points out. "They tend to explain things from their own perspective."

These days, the ideal IT manager is seen as someone deeply technical yet business savvy, wonderfully communicative and, of course, a strategic thinker. In other words, as mythic a creature as a unicorn. "This talent issue is hardly new," writes Stephanie Overby in our cover story ("The Great Talent Hunt," Page 32). "IT leaders have preached the importance of the blended IT professional for years. But after a decade, it's clear that help is not on the way."

So with no one coming to the rescue, we wondered how some of the industry's leading lights were coping with this increasingly pressing issue. We turned to the three newest members of our CIO Hall of Fame: the DoD's Takai, Kent Kushar of E&J Gallo Winery and David Smoley, who last month moved from Flextronics to become AstraZeneca's new CIO. We also talked with several of this year's winners of our Ones to Watch awards, which honor the next generation of up-and-coming IT leaders. (See the full list of Ones to Watch winners on Page 40).

The consensus was clear. The best blended IT-business executives are often homegrown, developed over time into strategic thinkers who operate well in both worlds. Some are business analysts enticed into IT positions. Others are IT stars loaned out to business units. Many are purposefully mentored by CIOs who take a longer view of talent development. "I look for open-mindedness, a questioning mind-set, candor, critical thinking, the ability to network confidently, internally and externally," says Smoley, who finds his hybrid talent at the company's manufacturing sites, where IT leaders must deal directly with customers and business management.

At E&J Gallo Winery, the CIO partnered with his CFO to recruit new business school graduates. "We didn't outsource it. We got on airplanes," Kushar explains. "We talked to deans. We studied the [curricula]. We joined advisory boards. And we were able to attract the right talent."



Maryfran Johnson, Editor in Chief, *CIO* Magazine & Events
mfjohnson@cio.com

CHATTER

Finding Value in Big Data

Big data has big potential, but without a good analytics system to **crunch the numbers,** none of its value will be realized. Contributing Writer Rob Enderle says there are few good analytics solutions on the market, so CIOs must be highly selective. He recommends looking for a vendor with **experience in your industry,** a track record with public and private cloud projects and the capacity to handle **traditional data repositories** and **real-time data streaming.** www.cio.com/article/730607

Luring Business Users

A **new CRM system** isn't worth much unless sales, marketing and customer service workers use it. Contributing Writer Jennifer Lonoff Schiff and CIO.com polled dozens of experts to come up with 13 tips for **motivating people** to use that shiny new CRM tool. One expert recommends appealing to competitive salespeople by adding **gamification features.** Another said to make sure **high-level execs** advocate for it, and to make it mobile-device friendly. www.cio.com/article/730775

Cloud Background Check

Once companies **deploy software as a service,** they may think they can sit back and enjoy the cloud. But many are woefully ill informed about or too trusting of the **security provisions** their providers have in place. Contributing Writer John Moore says companies must do a **security assessment of vendors** before they buy and then repeat it annually afterwards. He suggests checking against various **auditing standards** and **security frameworks** or hiring an **independent auditor** to evaluate the provider's safeguards. www.cio.com/article/730129

Compiled by Staff Writer Lauren Brousell. Have a comment about a story in this issue? Go to *www.cio.com/issue/20130501* or write to *letters@cio.com*.

PHOTO BY ANDRÉA WINCHENBAUGH

Mike Sullivan
GM OF HP AUTONOMY PROTECT

Mike Sullivan has over twenty-five years of experience building fast-growth, market-leading technology companies. As the GM of HP Autonomy Protect, Sullivan manages all aspects of strategy, operations and sales for solution areas that include Discovery, Archiving and Compliance.

FOR MORE INFORMATION ON TRANSFORMING YOUR ARCHIVE INTO AN INTELLIGENT REPOSITORY:
please visit **www.cio.com/whitepapers/autonomy**

Transforming Archives into Intelligent Repositories

How does the rapid growth in unstructured data alter the challenge of enterprise data management and the ability to gain insight from that data?

The fact is that it's much more than just the raw growth in the data. Companies now have to deal with diverse sets of data types including audio and video, as well as dynamic data being created by social media applications. In addition to the variety of data types, the velocity of creation and physical distribution rate are unprecedented. While traditional IT tools were primarily built for analyzing organized rows and columns, they do a very poor job extracting meaning from unstructured content, where you need advanced pattern recognition capabilities to infer context and concepts from your data.

What are the risks to organizations that fail to address the new generation of information governance issues created by the surge in unstructured data?

The growth of unstructured data, which is estimated to be as much as 90% of all new information being created today, makes it much more challenging for organizations to understand their data so they can effectively govern and harness it. But technologies exist today to help organizations solve these challenges. Now, with these systems, you can ensure compliance with regulations like Dodd-Frank, and a host of other regulations and guidelines. Second, you can proactively analyze and monitor information, and take effective action from that insight. Finally, when you understand your information, you can react and respond to investigations, lawsuits, and audits quickly and defensibly.

What's the role of archiving in information governance?

Archiving allows organizations to exercise control by gathering up all their information into a centralized, cost-effective repository. Whether the content is email, social media, or transient content of undetermined value, it is typically more economical to archive information rather than allow it to reside in active production systems. While that approach is fast becoming yesterday's story, today it's possible to transform archives from simple data storehouses into an intelligent repository that allows you to perform a range of activities on archived information.

What is unique about HP Autonomy's approach to intelligent archiving?

HP Autonomy takes archiving to a new level by allowing organizations to mine data for more value and insight. At the core of Autonomy Consolidated Archive (ACA) is Autonomy IDOL (Intelligent Data Operating Layer). IDOL works within ACA to allow organizations to derive contextual meaning from more than 1,000 different file formats including text, image, audio and video, and more than 150 languages. This means you can break down any barriers between you and your data.

Autonomy solutions also enable businesses to perform advanced analytics. Instead of limiting organizations to finding information based on keywords and simple search approaches, we enable you to search and analyze based on the concepts held within information. It changes the game in a way that leaves traditional archiving methods behind.

ACA supports an optional, native discovery module to allow organizations to get critical, insight needed to intelligently and economically cull and preserve data to reduce risk and react and respond to legal investigations quickly and cost effectively.

What is the relationship between HP Autonomy's solution and the cloud?

HP Autonomy supports traditional on-premise, cloud, and mixed-mode hybrid environments. We are a proven industry leader in the cloud and have been delivering cloud-based solutions around the globe for more than 15 years. We have a unique architecture that is designed to meet the challenges of securely deploying applications, at scale, in the cloud. We call it split-cell technology. When information comes into our cloud, we can ingest it at a massive rate, and using our advanced indexing technology users can quickly find the information they need based on meaning and context. We maintain the world's largest and most scalable online private cloud, with more than 50 petabytes of information under management in the highly secure, regionally distributed HP converged cloud infrastructure.

hp | Autonomy

CIO
Custom Solutions Group

FROM THE
PUBLISHER

That Last Mile

I have the pleasure of meeting dozens of CIOs and their direct reports each month, often in small groups where we talk about topics of high interest to the decision makers in enterprise IT. This is one of the most rewarding parts of my job because I learn so much about your businesses and the top initiatives you're working on. I also get to know you better as people.

The one major difference I've noticed between CIOs and aspiring CIOs is the ability to communicate. I find most CIOs to be great communicators. You understand every aspect of your business and where your company is headed. You can rattle off your top business and IT priorities and talk about exactly how you are accomplishing them. You are keenly interested in what other CIOs are working on, and what problems they are solving. I also find many CIOs have a great sense of humor and are refreshingly self-deprecating.

In contrast, when I am with *aspiring* CIOs, I often find the discussion to be a bit one-sided. I end up asking lots of questions to draw information out of the group. The answers tend to be shorter, and the interest levels and quality of dialogue within the group are lower. I still learn a lot at these meetings and enjoy the connections, but the whole communication dynamic is noticeably different. Perhaps it's the last mile to travel from IT manager to IT leader.

On my list of leadership skills, communication goes near the top. In our 2013 State of the CIO research, we asked what IT departments were doing to strengthen their relationship with business stakeholders. Training the IT staff "to better partner with the business" came in fifth, and deepening the staff's strength in management and leadership expertise was ranked 14th. I would argue that these communication skills should rank in the top three, and I believe it's the CIO's responsibility to instill these skills in your team.

One great way to develop and refine communication ability is to encourage more public speaking, event participation or group interactions with other executives. I think that over time your people would reap great benefits from these kinds of exercises, becoming better known and respected within the larger IT community. If you or someone on your team would like to join me at one of *CIO* magazine's many roundtables, lunches or dinners, just drop me a line and I'll let you know when we are coming to your town next.

Adam Dennison

Adam Dennison, VP & Publisher
adennison@cio.com

PHOTO BY LYNN HOLMLUND

CIO
BUSINESS TECHNOLOGY LEADERSHIP

PRESIDENT AND CEO Michael Friedenberg
GROUP PUBLISHER Bob Melk
PUBLISHER Adam Dennison
PUBLISHER EMERITUS Gary J. Beach
CHIEF CONTENT OFFICER John Gallant

EDITORIAL

EDITOR IN CHIEF
Maryfran Johnson
EXECUTIVE EDITOR
Mitch Betts
MANAGING EDITOR
Kim S. Nash
SENIOR EDITOR, COPY AND PRODUCTION
Colleen Barry
STAFF WRITER
Lauren Brousell
CONTRIBUTORS
Mary Brandel, Adam Hartung, Martha Heller, Kate Leggett, Stephanie Overby, Juan Carlos Perez, Mary K. Pratt, Scott Seese

CONTRIBUTING EDITORS

CIO EXECUTIVE COUNCIL
VICE PRESIDENT, EDITORIAL AND PROGRAMS
Rick Pastore
DIRECTOR OF *CIO* PROGRAMS
Carrie Mathews

DESIGN

EXECUTIVE DIRECTOR, ART AND DESIGN
Mary Lester
ART DIRECTOR
Terri Haas

ONLINE EDITORIAL

EDITORIAL DIRECTOR
Brian Carlson
EXECUTIVE EDITOR
Dan Muse
ASSISTANT MANAGING EDITOR
Shane O'Neill
SENIOR EDITORS
Brian Eastwood, Al Sacco
SENIOR ONLINE WRITERS
Kristin Burnham, Rich Hein, Tom Kaneshige, Thor Olavsrud
ASSOCIATE ONLINE EDITOR
Sheryl Hodge

RESEARCH

RESEARCH DIRECTOR
Carolyn Johnson

CXO MEDIA INC.

©CXO Media Inc.

INTERNATIONAL DATA GROUP
CHAIRMAN OF THE BOARD
Patrick J. McGovern

IDG COMMUNICATIONS, INC.
CEO
Bob Carrigan

BPA WORLDWIDE

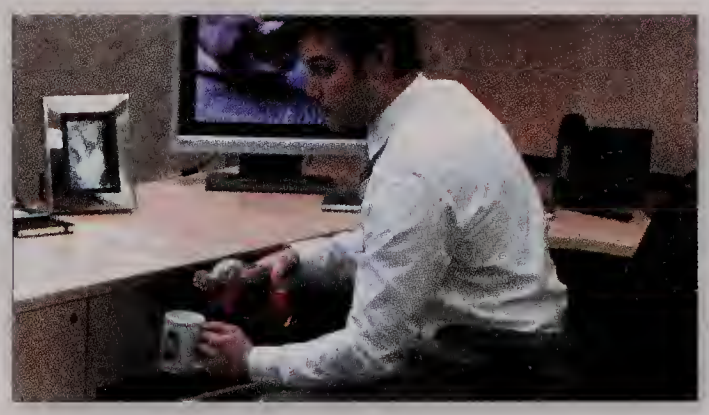
CONTACT US

WHO COVERS WHAT *www.cio.com/staff*
EMAIL *letters@cio.com*
PHONE 508 872-0080

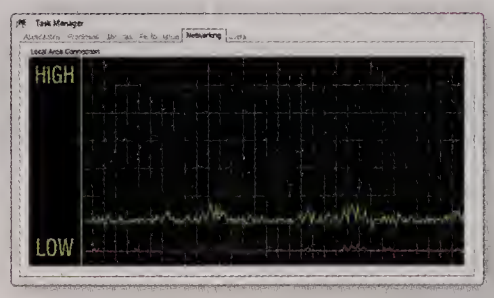
Avigilon lets you see all this

catch

and expose



while keeping bandwidth



Manage your HD surveillance footage without slowing down your network.
Avigilon's HDSM™ technology lets you add as many high-definition cameras to your surveillance system as you want, while intelligently managing the flow of HD footage through your network. See how Avigilon delivers superior image detail using the minimum amount of bandwidth at avigilon.com/HDSM

All the images above were shot with Avigilon high-definition cameras.

avigilon
THE BEST EVIDENCE™

Seeing IT in a New Light

Straying from a traditional career path gives an up-and-coming CIO and his company valuable new perspectives **BY KRISTEN LAMOREAUX**

How many application development leaders do you know who want to move into IT infrastructure—thus committing what some would consider career suicide? Here's one: Kevin Nelson of Guardian Life Insurance. Nelson had spent his entire career in applications development, but three years ago the infrastructure chief's job at Guardian opened up.

> **As the customer of the infrastructure team, I got insight on where improvements could be made.**
>
> –KEVIN NELSON, DIVISIONAL CIO, GUARDIAN LIFE INSURANCE

When executives had trouble finding candidates with the right cultural and skills fit, Nelson asked whether he could be promoted into the role. "Being the customer of the infrastructure team," Nelson says, "had given me insight to what services were expected and where improvements could be made."

Nelson's desire to move into the infrastructure position coincided with Guardian's decision to take a new, more customer-focused approach to IT infrastructure.

The infrastructure staff mainly focused on IT from a technical and cost perspective, whereas "in application development you have a different dimension—a third lens—and that's engineering the optimal customer experience," Nelson says. "As soon as I found out the leadership really wanted to make infrastructure different, I connected our service offerings or actions directly to the end customer experience, and things really took off."

When Nelson got the promotion, he knew he was bound to hear snarky comments from the technical staff, such as, "He's from app dev. What does he know?" While he acknowledges that IT needs experts in certain technical areas, Nelson says that sometimes you also need "well-rounded people who know how to put subject-matter experts together to achieve different results."

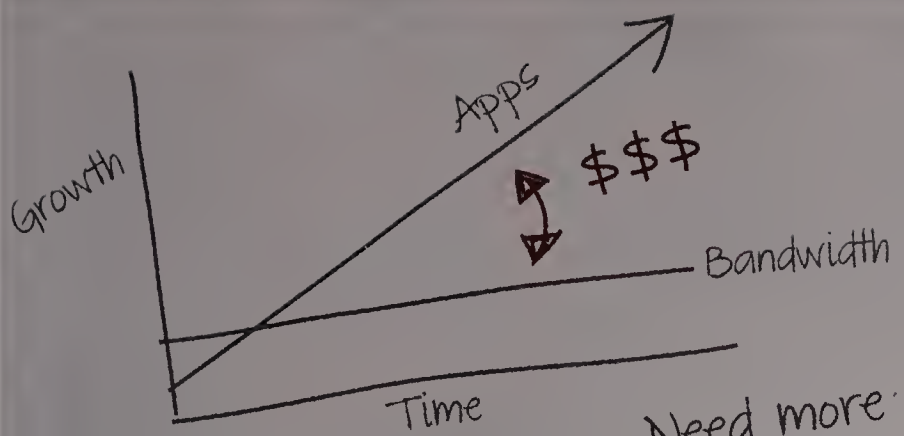
When making the move to infrastructure, Nelson shunned any thoughts of failure. "If I concentrated on 'I'm going to fail,' then I'd fail. It was more about putting everything I have into it and having confidence to trust it would go well."

And go well it did. Nelson and his infrastructure team locked down the IT environment, built a resilient data center, and implemented the processes required for a mission-critical site. "What's really important to remember is that the team did all this," Nelson emphasizes.

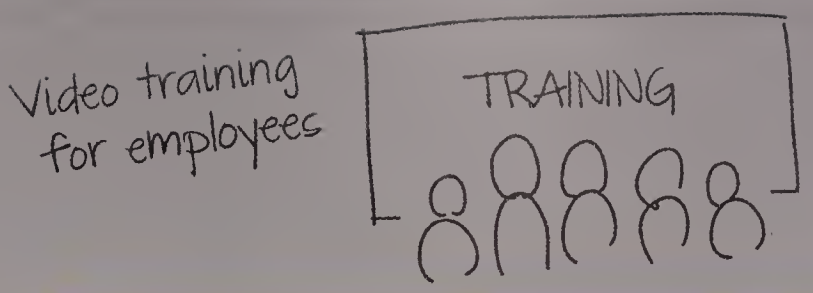
Previously, Guardian hadn't had much cross-pollination of skills within the IT organization, but now they've embraced the practice, according to Nelson, because it brings a fresh perspective while preserving the company culture. "Now we're seeing opportunities pop up where maybe that person doesn't have the specific experience required, but they have the skills needed to learn the position and it's those transferrable skills that will help them excel in their next position," he says.

Last year, Nelson was promoted to divisional CIO for two Guardian divisions. Could Nelson have gotten that promotion without his move to the infrastructure group? Perhaps, but Nelson says, "I'm really glad it worked out the way it did."

Kristen Lamoreaux is president and CEO of Lamoreaux Search, which finds IT professionals for hiring managers.

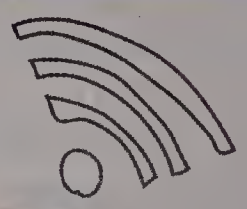


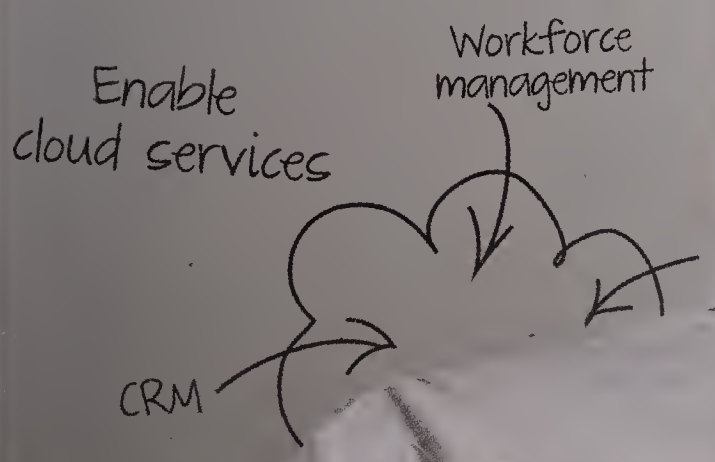
Need more bandwidth!



Is your network holding you back?

Security threats





HughesON is here. Turn your network into the high-performance engine you need to power your business.

This is not networking as usual. HughesON™ is a new and comprehensive set of managed solutions that dramatically improves network performance across all your locations. Employing cutting-edge technologies available only from Hughes, it helps deliver even your most bandwidth-hungry applications—faster, smarter, more reliably and with greater impact. So you can delight your customers, motivate your employees and streamline your operations—and save money doing it.

Power your business with HughesON. Learn more at **HughesON.com/new.**

HughesON™
OPTIMIZED NETWORKS

High-Capacity Access | High-Availability Networking | Performance Optimization | Digital Media Solutions

HUGHES
An EchoStar Company

© 2013 Hughes Network Systems, LLC, an EchoStar company. All rights reserved. HUGHES is a registered trademark of Hughes Network Systems, LLC. HughesON is a trademark of Hughes Network Systems, LLC. EchoStar is a registered trademark of EchoStar Corporation.

quick FIX

Big Hiring Mistakes

Are you guilty of these blunders?

1 Inadequate preparation for the interview. "The typical hiring manager reads the resume on the way to meet the candidate. That's not preparation," says Ron Lichty, co-author of *Managing the Unmanageable*.

2 Neglecting to get employee referrals. "Every study [says that] good people recommend other good people. And you get a built-in reference," Lichty says.

3 Setting the bar too high. Many companies are guilty of searching for a proverbial needle in a haystack, says Tracy Cashman, partner at WinterWyman. "If they've got a laundry list of 10 items, they want all 10 [and] they aren't willing to settle for five and a great personality." *-Rich Hein*

For more tips, see: www.cio.com/article/728019

How do I adjust to a new CEO?

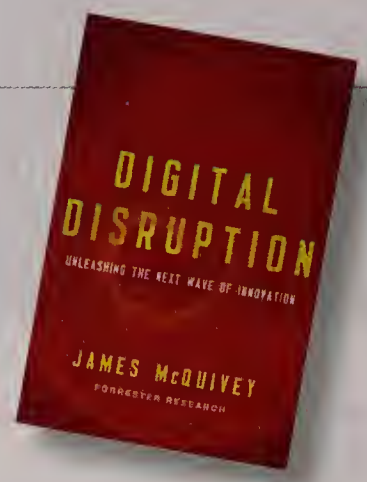
ALWAYS remember that a new CEO will have an explicit and implicit agenda for change. In their first 100 days, be proactive in developing a strong relationship with them to learn the new agenda and find ways to help them succeed. CEOs seek information to formulate their plans. Contact the CEO ahead of their official start date to provide your IT strategy and other relevant information that can help them understand IT's contribution. Once the new chief starts, develop your relationship by looking for chances to spend time together, such as traveling, or attending business meetings or customer presentations.

SOMETIMES you may disagree with the CEO's decisions if you feel the business will be negatively impacted. CEOs rarely have senior leaders disagree with them, but showing you have the courage and expertise to tactfully challenge the popular point of view can earn you respect. Choose the right time and place to express your opposition, however. Take care to pick the right issues, venues and approaches when voicing a contrary opinion, emphasizing that you are behind the CEO's new direction.

NEVER be passive in developing a relationship with the new CEO. Speak up about opportunities for business growth and communicate the business impact of the IT function. Show initiative in positioning yourself as a trusted adviser on the CEO's agenda. Some CEOs are uncomfortable with technology and may view IT as a support function rather than a strategic ally. To maximize your influence, never use IT jargon. Talk about business concerns first, then demonstrate how IT can enable growth.

David Brookmire is an executive adviser, researcher and author. Contact him through *www.cpstrat.com*.

WORTH READING



BOOK Digital Disruption

By James McQuivey

For CIOs dealing with a flood of consumer tech, *Digital Disruption* will strike a familiar chord. The author describes how digital competitors wield new tools, then provides valuable step-by-step guidance for adopting the "disrupter's mind-set" that puts customers at the very heart of your innovation process. *Amazon, $24.95*

PHOTOS BY THINKSTOCK

Microsoft

EmpireCLS
WORLDWIDE CHAUFFEURED SERVICES

FROM LUXURY CAR SERVICE TO SOFTWARE AS A SERVICE. A BUSINESS TRANSFORMED. EMPIRECLS SEES THE POWER OF WINDOWS SERVER 2012.

When pioneering ground transportation company EmpireCLS decided to transform their business model by offering their proprietary dispatch and reservation systems software to other companies, they chose the sophisticated datacenter capabilities of Windows Server 2012.

With built-in features replacing an expensive third-party networking solution, and less need for specialized support, EmpireCLS was able to rapidly provision a growing customer base while reducing IT costs by 30%. With operational efficiencies driven by Windows Server 2012, innovation is taking a front seat at EmpireCLS.

Read more about EmpireCLS's success and see what you can do with Windows Server 2012.

Windows Server 2012
BUILT FROM THE CLOUD UP.

microsoft.com/ws2012

Hurricane IP transit: Higher performance. At lower cost...

World-class IPv4 and IPv6

Hurricane Electric gives you a unique and very resilient Internet backbone across North America, Europe and Asia, operating its own robust fiber-optic network with over 9,000 BGP peering sessions with other major networks. Plus, all of its regional POPs are fully enmeshed into the network with redundant connections.

Constantly on the leading edge, Hurricane has already established the most connected IPv6 network on the planet—as well as one of the top three IPv4 backbones. Which is why Hurricane can support both IPv4 and IPv6 on the same connection and provide this service at no extra charge!

Maximum speed & reliability

Hurricane's strategy is to provide *redundant routing*—within geographic areas and also between regions. So, it has no less than *four* paths across North America, multiple paths to Europe, and rings in Europe and Asia.

This gives you direct access to more networks, with *lower latency* and *fewer hops*. Which means your data will arrive via the most direct routes, in the shortest time, with maximum reliability. No matter whether that's across the country or around the world. Also, a single ASN is used worldwide, which helps streamline global routing and service.

And, of course, every aspect of this self-healing network is monitored 24/7 by Hurricane engineers. So rest easy, you're totally covered!

Faster quotes, faster turn-up

When you go to Hurricane for a quote and set-up, they make everything quick and simple—which is pretty unusual in this business!

While some providers routinely take weeks or months to turn up a new circuit, at Hurricane you'll get the *fast track* on everything...

Your quote, contract, account creation, port assignment, service turn-up—*everything* can be done within *hours*. Turn-up within 24 to 48 hours is very common for Hurricane.

Unbeatable low pricing

Hurricane is known for its super-competitive wholesale pricing. For example, where another provider might charge $1.50/Mbps, Hurricane charges fifty cents wholesale. You could save thousands per month—as many Fortune 50 and 500 companies already do. And billing's totally flexible: flat-rate or burstable.

It's all about *performance* and *value*: world-class IP transit services *and* a very good deal. See for yourself. Just go to the Hurricane site for a quick/simple quote. Or call: +1(510)580-4217. And prepare to be pleasantly surprised!

HURRICANE ELECTRIC

he.net • +1(510)580-4217 • sales@he.net

Hurricane's high-performance, high-value IP transit—It's taking the world by storm.

ILLUSTRATION BY ANTHONY FREDA

Innovation from Outsiders

GE, Allstate try crowdsourcing contests where external brainiacs compete to produce the best big-data analytics

BY KIM S. NASH

If two heads are better than one, are 45,000 heads spectacular? Companies that crowdsource can find new ideas faster and sometimes at a lower cost than internal innovation.

But putting business problems out for public brainwork could expose sensitive information and strategic plans. And contest-winning ideas, developed in isolated laboratory conditions with squeaky-clean data, can't always be translated to the unpredictable real world, says Anand Rao, a principal at PricewaterhouseCoopers.

Still, some large companies see crowdsourcing as a valuable tool for finding answers to questions that involve analyzing lots of data.

General Electric recently worked with Kaggle, a vendor that manages crowdsourcing contests, to find ways to make flying more efficient. GE customer Alaska Airlines agreed to provide data, mixed with GE's own statistics, about planes, flights and other aspects of flying. Once the data was scrubbed of anything proprietary or private, GE shared it with Kaggle members, which ▸▸▸

45% Teachers who say that they or their students use e-readers in the classroom or to complete assignments. Pew Research Center

▸▸▸ **Crowdsourcing** Continued from Page 13

include coders, statisticians and professors, and other external developers and data scientists. Contestants analyze the data and devise algorithms to answer business questions.

The contest wasn't over at press time, but early results showed that the best entries predicted flight arrival times within four minutes of actual arrival--three minutes better than tools now used by air-traffic controllers.

"I do believe we have the potential to see people come up with something groundbreaking for us," says Bill Ruh, vice president of GE's global software and analytics center.

Insurance giant Allstate is also using Kaggle contests for big-data analysis, but along the way has learned to disguise sensitive data, says Eric Huls, vice president of product research.

In one contest, Allstate sought better ways to predict which auto insurance customers are most likely to submit a bodily injury claim, based on what cars they drive.

Allstate gathered historical data on such claims, including vehicle make, model and horsepower. Rather than reveal sensitive information to outsiders (Kaggle claims 45,000 problem-solving members in 100 countries), Huls' group masked the data. For example, references to "Ford Focus" became "27" and horsepower was assigned a variable, not a real measure.

"We have the potential to see people come up with something groundbreaking."

–Bill Ruh, VP and Global Technology Director, GE

For three months, 202 players on 107 teams competed to produce the most accurate algorithms. Allstate split $10,000 in prizes among the three participants whose predictions scored highest for accuracy. "Matt C.," the winner, came up with algorithms 271 percent more accurate than the ones Allstate had been using. He won $6,000.

Running a contest is "an order of magnitude" less expensive than hiring outside consultants to supplement internal analytics staff, Huls says. He also likes the diversity of approaches taken by the contestants. Allstate has incorporated the contest results into how it evaluates customers, he says.

Contact Managing Editor Kim S. Nash at *knash@cio.com*. Follow her on Twitter: *@knash99*.

crunch

Service **LEADERS** & **LAGGARDS**

As CIOs strive to improve the customer experience (CX), they can learn from companies on this list of the best and worst at CX

Best-rated

- Publix
- Trader Joe's
- Aldi
- Chick-fil-A
- Amazon.com
- Sam's Club

Lowest-rated

- US Airways
- Time Warner Cable
- Days Inn

SOURCE: TEMKIN GROUP SURVEY OF 10,000 U.S. CONSUMERS, RATING 246 ORGANIZATIONS, 2013

Gamification Boosts Class Participation

In hopes of making training more accessible for busy employees, Deloitte put its leadership training catalog online and added videos and downloadable content, but it still faced the challenge of getting 20,000 employees to log on and take the classes.

So Frank Farrall, lead partner at Deloitte Digital, called on Badgeville to add gamification to the training portal so participants could earn points and badges based on the number of courses completed. Employees are then ranked on a leaderboard.

"Any time you put a leaderboard up, the increase in activity is dramatic," Farrall says, because it brings out people's competitive instincts.

Deloitte has seen a 47 percent increase in the number of employees who return to the course portal on a daily basis, Farrall says, and active users have an average of three badges each.

"If you can gamify the process, you can make it more interesting," he says. "You are rewarding the behavior and it's like a dopamine release in the brain. Humans like a game." ***–Lauren Brousell***

80% U.S. investors who say that they probably wouldn't invest in a company with a reported history of cyberattacks. Zogby Analytics

truphone

INTERNATIONAL MOBILE ROAMING DOESN'T HAVE TO BE COMPLEX OR COSTLY.

STAY CONNECTED.
GLOBALLY.

www.truphone.com/CIO
888-99-MOBILE
business.us@truphone.com

Managing the Risk of Status Quo

In today's ever-changing tech markets, one of the greatest risks a CIO faces is not moving fast enough

BY ADAM HARTUNG

Uptime, response time, mean time between failures—the history of IT is full of metrics improved by reducing risk, making sure nothing interferes with operations and productivity.

But times have changed. Today one of the greatest risks is maintaining the status quo—being wedded to dated (or nearly obsolete) IT solutions as competitors move to cheaper, faster and better platforms that are easier to use and produce happier customers and business partners.

The best way to manage the risk of being stuck in the status quo is to do scenario planning. Rather than planning toward a better future starting from what you have and what you know, start by taking your mind all the way out to 2018 and asking "What could the world look like?" and then plan backward to today. Forget about the status quo as you look through the windshield to see what likely lies ahead.

Rather than thinking about how you can improve what you have, free yourself to think about what you could deliver.

Nobody wants to be caught behaving, or even looking, out of date. Yet it's easy to fall behind. Look at how fast BlackBerrys lost market share. Remember a decade ago when Unix servers and workstations were common, only to be almost entirely replaced by Windows servers and faster PCs as Sun Microsystems and Silicon Graphics faltered in just five years? Preparing for the possibility of radical change is better than finding yourself tied to a struggling vendor that lacks the solutions for your needs—and charges more than your CFO will accept.

For example, what if the market shift to tablets and smartphones continues unabated? What if in five years users don't carry laptops at all? What happens to your IT shop if Microsoft Windows sales decelerate, as you and your peers no longer feel compelled to upgrade existing PCs or buy new ones? Are you prepared for a wholesale transition to devices using operating systems like iOS or Android?

Overcoming status quo risk offers your IT department the opportunity to be of even greater value to your business. Rather than thinking about how you can improve what you have, free yourself of the status quo to think about what you could deliver.

Aggressively project the performance of tablets, smartphones, apps and cloud services to see just how capable, and cheap, IT services could be in five years. Then rethink how you could change the business by changing your IT. You'll be able to engage your peers in an entirely different discussion about how IT adds value.

A Few What-If Scenarios

What if you're the first in your industry to replace all laptops with mobile devices? Which jobs would convert first? What sorts of tablets would you use? What OS would you adopt? How much could you improve productivity and lower cost?

What if you're the first in your industry to shut down all company servers, moving applications to outsourcers or the cloud? How fast can you move? How much could you lower your costs?

What if you're the first to eliminate your office land lines by having employees use their smartphones? How much would you save in line costs, switch services and voice mail? How would you handle central inquiries and phone directory services? Could you use this as a springboard for getting half your employees to use a home office half the time? How much would you save in office costs? What OS selections and applications would you need to support to enable this decentralized workplace?

Most of these scenarios aren't realistic for 2013 implementation. But how many are realistic for 2018? By examining what-if scenarios like these, you could leapfrog the competition and build a more efficient organization that serves happier users and saves money.

Adam Hartung is a consultant specializing in innovation, and the author of the book *Create Marketplace Disruption.*

©2013 CenturyLink, Inc. All Rights Reserved.

OUR VISIONARY CLOUD INFRASTRUCTURE HELPS YOUR BUSINESS SHINE.

With CenturyLink as your trusted technology partner, your business can shine every day. We are a visionary cloud provider and leader in hosted IT solutions, with data centers around the world. We also provide you with a global broadband network. And our dedicated, responsive support is designed to free you to focus on innovation and growth.

centurylink.com/link

Data • Voice • Cloud • Managed Services

CenturyLink® Business

Your link to what's next™

Jarod Greene,
research analyst
at Gartner

Entering the Age of Tech Self-Help

Good riddance to the traditional IT help desk, and welcome to the enterprise Genius Bar

BY TOM KANESHIGE

CIOs worried that bring-your-own-device (BYOD) policies would lead to a spike in technical support calls, but the flood of calls never materialized, says Gartner analyst Jarod Greene. In fact, BYOD and other factors have led to a decrease in help-desk calls—to the point where the traditional help desk may become irrelevant in three years. CIOs have a chance to remake it.

CIOs worried that BYOD would lead to a doomsday scenario for the help desk. What happened?

I work with service desk managers every day, and rarely do I hear that "BYOD flooded us" or that mobile drove a spike in call volume. There's such a proliferation of information about mobile devices that the need to continually call the service desk decreased. The growth in mobile-device-management [software] also gave the service desk the ability to remotely fix devices.

You see a reduced role for the help desk.

By 2016, we'll see a 25 to 30 percent drop in user-initiated contact volume. All the users are cloud-enabled, BYOD-enabled, consumerization-enabled—and IT loses its relevance.

What's driving this decrease?

Part of it is that you're dealing with a tech-savvy workforce that can figure things out in a pinch. The Millennial worker is not prone to pick up the phone and call [the help desk]. The Department of Labor says half the workforce will be Millennials by 2015.

With BYOD, it's how organizations approached support. They told employees to provide their own support—and users were able to do it. Consider a company in Georgia that rolled out a BYOD program, told employees it could not support their issues because of the device proliferation, and gave them a SharePoint portal to support themselves. Over time, the portal grew an iOS group, a BlackBerry group and an Android group. People governed themselves. It worked out, and a year later the service desk went into the communities, parsed the information, and is now able to support them based on the shared information.

> With BYOD, organizations told employees to provide their own technical support—and users were able to do it.

We talk about a bring-your-own-device world, and inside this is a bring-your-own-support world.

So bring-your-own-support trumps the help desk?

We're seeing organizations build peer-to-peer support models, whereby users connect with each other. The community management function is one that the next-generation service desk will have to perform in order to be relevant.

What can CIOs do?

You're still going to have the traditional level-one, nine-to-five IT services desk. But when it comes to opportunities to enhance the way people interact and work with IT systems, let's build the new face: enterprise Genius Bars and enterprise Geek Squads. I think CIOs need to build this to reestablish the value of IT.

In a survey of 350 companies, about one percent of organizations said they have fully implemented this model. Forty-two percent say they're currently planning this or in the process of implementing it. They want to build some form of walk-in support.

Tom Kaneshige is a senior writer for CIO.com. Read the full interview at *www.cio.com/article/730650.*

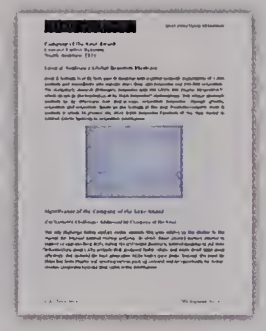
PHOTO BY VADA MICHELLE PHOTOGRAPHY

contact center

VENDOR COMPARISON

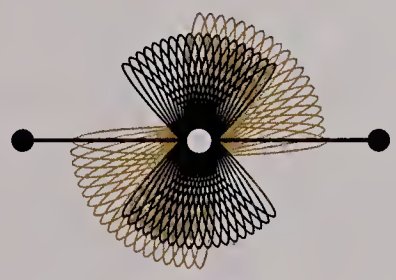
REPORTS

from analysts and media



helping you reach a conclusion

Choosing a contact center solution can be a challenge as you sort through all the information being provided by various vendors. Obviously, all those solutions aren't the same. Functionality, architecture, and total cost are some of the variables that can impact the success of your project. Where can you get reliable research to help with your choice? What do the independent analysts who follow this market segment have to say? We invite you to see. RELY ON RESEARCH from the industry experts.



INTERACTIVE INTELLIGENCE®

Deliberately Innovative

www.inin.com

CONTACT CENTER • UNIFIED COMMUNICATIONS • BUSINESS PROCESS AUTOMATION

Cloud-based or On-premise

Plan Your Cloud Breakup

Switching cloud providers is painful unless you negotiate airtight contracts from the start

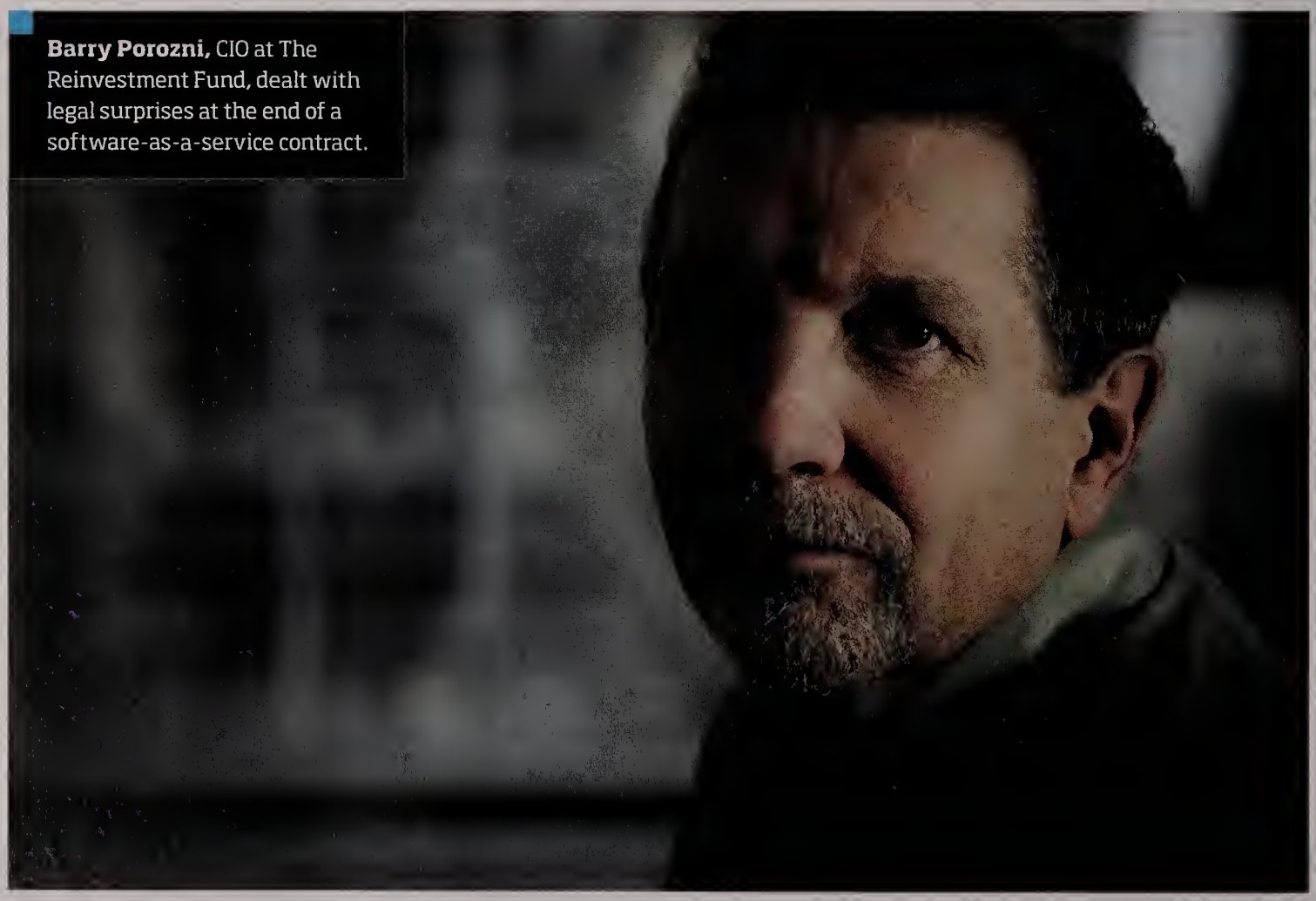
BY MARY K. PRATT

Barry Porozni recently discovered a critical omission in a company contract with a software-as-a-service vendor: There was no clause to cover key aspects of data migration when the deal ended.

That omission caused headaches as Porozni, CIO at The Reinvestment Fund, sought to move a cloud-based document-management and workflow system back on-site. Porozni says his company had to negotiate a price for a copy of its own data plus tools needed for the migration.

"You think a lot about the beginning. People do a good job with that," he says. "But you need to think about the end, too: data ownership, migration, what happens if I want to switch."

Porozni is moving customer data and imaged documents from vendor Savana. He says Savana has been good to work with and they're parting on friendly terms. But his IT group has developed a similar application in Microsoft Sharepoint, which he expects will save him money. ▶▶▶



Barry Porozni, CIO at The Reinvestment Fund, dealt with legal surprises at the end of a software-as-a-service contract.

PHOTO BY DOMINIC EPISCOPO

5X
FASTER DEPLOYMENT

68%
LOWER COST PER USER

83X
HIGHER AVAILABILITY

THE NUMBERS ADD UP. VCE VBLOCK™ SYSTEMS.

Focus on business, not infrastructure. Vblock Systems are built on the Cisco Unified Computing System with Intel® Xeon® processors, storage from EMC and virtualization from VMware. The results speak for themselves – more productivity with less cost.

Learn more at www.VCE.com/ROI

intel inside™ Xeon®

VCE

© 2013 VCE Company, LLC. All Rights Reserved. Vblock and the VCE logo are trademarks or registered trademarks of VCE Company, LLC and/or its affiliates in the United States and other countries. Intel, the Intel logo, Xeon and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries. All other trademarks used herein are the property of their respective owners. Numbers based on IDC Whitepaper: "Converging the Datacenter Infrastructure: Why, How, So What?" May 2012.

▸▸▸ **Cloud migration** Continued from Page 20

The Open Group, a research and standards consortium, says that 92.5 percent of IT professionals are actively researching cloud computing or have already implemented cloud services. But many of those IT leaders have yet to switch cloud vendors, analysts say. When they do, they'll likely find that untangling themselves from their cloud providers will be more complicated, painful and expensive than they expected.

"They're going to have this surprise that shouldn't be a surprise," says R "Ray" Wang, CEO of Constellation Research, which last year published "The Enterprise Cloud Buyer's Bill of Rights," a paper aimed in part at preventing vendor lock-in. "They should have done their due diligence."

Who Owns Your Data?

To better prepare for the day when they might choose to switch vendors, CIOs need to consider several key points both during initial negotiations with cloud providers and during a contract's lifespan. Those points include questions of access to and ownership of data, says Brent Nair, CIO for the city of Memphis, Tenn.

Nair's IT team moved an application from one cloud provider to another in 2010. The contract guaranteed the city would get copies of its data, but it didn't specify how many. Nair says his staff "went round and round" with the vendor and ended up having to negotiate a price for the number of copies they wanted.

"You have to think about how do you physically get your data back, who pays for it, do you have to have someone enter the facility, and is it encrypted," Nair says. In traditional on-premise computing, he notes, you don't have to consider these potential wrinkles because you have physical control of the data.

CIOs should also pay attention to pricing, Wang says. One big draw of cloud is being able to pay as you scale up, but not all vendors offer as much pricing flexibility as you scale down before a migration.

Tim Crawford, a consultant and former CIO, advises building legal safeguards in multiple layers. For instance, contracts shouldn't require the vendor to simply provide the company with a copy of its data. The contract should specify the form and file type the data will take. "If I'm storing information in a relational database and they give me a flat file, that data is now useless to me even though they met the contract terms. You've lost the relationship of one data point to another," Crawford says. Approach negotiation of the initial contract thinking the vendor won't help at all with a migration, he adds. "Plan with the end in mind."

Mary K. Pratt is a freelance writer based in Massachusetts.

5 Things You Need to Know

ENTERPRISE APP STORES

1 THEY IMPROVE QUALITY CONTROL. One way to make sure employees don't download bogus apps is to create an enterprise app store where they can get company-approved apps. Twenty-five percent of enterprises will have an app store by 2017, Gartner predicts, in part due to this greater degree of control. Michele Pelino, an analyst at Forrester Research, says app stores ensure that the correct versions of apps or content are being used. "If you don't have some way of controlling that, you have people using different versions or apps that you don't want them to get access to," she says.

2 YOU CAN GATHER USER FEEDBACK. With a corporate app store, IT has greater visibility into user habits than with a consumer app store. IT can monitor user behavior or measure productivity and create recommendation engines to suggest relevant apps to try out. It's a two-way street: Employees can use the store's feedback section to show likes, dislikes and preferences.

3 THEY CAN IMPRESS THE BUSINESS EXECS. Managing the complex ecosystem of apps created by lines of business is a huge challenge for IT, but enterprise app stores are a step toward simplifying that, says Rohit Sharma, head of the mobility practice at Virtusa, an IT consultancy. He says IT can prove its value to business executives by using an app store to manage the apps for bring-your-own-device programs and eventually for distributing desktop software, too. "The message [IT] is sending to the internal audience is that they care about it," he says.

4 THEY GIVE THE TECH STAFF A BREAK. A survey by Partnerpedia, a mobile-app-management company, found that 86 percent of enterprises want a self-service model where employees download apps themselves, thus freeing the IT staff for other tasks. The concept of an app store is well understood by employees who have used a public app store, Pelino says. IT can also automate the procurement of software licenses from app stores, according to Gartner, and push out updates.

5 THEY'RE MORE SECURE THAN PUBLIC APP STORES. According to Forrester, 60 percent of firms in North America and Europe are supporting personally owned devices, which makes security tougher to manage. With an enterprise app store, IT can prohibit the use of certain apps, such as file-sharing services that tend to spread malware. If users complain when they can't use preferred apps on their devices, IT can set up a passageway to consumer app stores. Then if the desired app is accessed through the corporate app store, IT can still control its use.

–Lauren Brousell

Helping patients get the health care they need is Colleen's business. **We're proud she's made it our business, too.**

At Time Warner Cable Business Class, we listen to your needs, then work with you to provide expert advice and support. Colleen came to us when her hospital network merged with three new facilities. Together, we designed a fiber network with Phone and Internet. By consolidating all their locations under one provider, we helped Colleen get the advanced solutions her business needed, while cutting expenses. And we can do the same for you. To learn how, call us for a consultation today.

Ranked #1 in Customer Loyalty by

FROST & SULLIVAN

1.877.615.4332 | **TWCBC.COM**

INTERNET | VOICE | TELEVISION | NETWORK SERVICES | CLOUD SERVICES

TIME WARNER CABLE **Business Class®**

Products and services not available in all areas. Actual speeds may vary. Some restrictions apply.
Time Warner Cable Business Class is a trademark of Time Warner Inc. Used under license.
©2013 Time Warner Cable Enterprises LLC. All Rights Reserved.

ANALYST VIEW

Invest in Happy Customers

CIOs should find out which communication technologies customers prefer and give reps the data they need to answer questions **BY KATE LEGGETT**

At many companies, customer service is no longer viewed as a cost center; it's now considered good for the bottom line. Forrester data shows that a 10 percent improvement in a company's customer-experience score can translate into millions of dollars in increased revenue.

On the flip side, poor customer-service experiences hurt revenue. Forrester survey data shows that about 30 percent of a company's customers have poor experiences and may defect.

Why is it so difficult to deliver good, cost-effective customer service?

Today's customer service technology ecosystem is complex. There's been an explosion of communication channels, touch points, deployment methods and vendor consolidations. With all these changes, customer service organizations struggle to get their agents to use consolidated tools that access relevant data, follow consistent processes and, most importantly, provide customer service in a way that customers want to receive it.

So how do you get better? Here are four strategies CIOs should follow to support customer-service operations:

- Given the wide array of communication channels and consumer devices, companies must understand their customers' communication preferences. For example, a well-known airline found that customers preferred timely text messages over other types of communication. IT should use this data to anticipate the technology they'll need to support in the future.
- Design your IT infrastructure to support cross-channel communication. Customers want to start conversations on one channel (such as voice) and continue it on another (such as online) without having to restart the conversation.
- Make sure customer-service agents are empowered with the data they need to quickly answer questions.
- Measure customer satisfaction and agent productivity metrics, and tune technology and business processes to optimize outcomes.

Kate Leggett is a principal analyst at Forrester Research who serves application development and delivery professionals.

Biometric Tech Fights Fraud at Call Centers

As companies have gotten better at detecting and preventing online fraud, would-be criminals have redirected their efforts to the corporate call center.

Financial services companies and retailers, for example, are reporting a rise in call-center fraud, says Shirley Inscoe, an analyst at Aite Group, in large part because "fraudsters tend to take the path of least resistance," which may be the friendly operators at the call center.

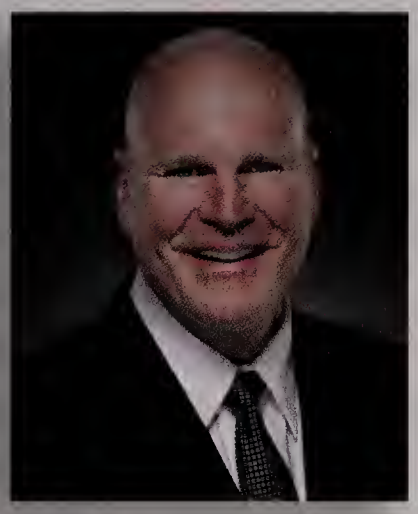
Armed with data gleaned from social media–the name of an account-holder's first pet or high-school mascot–a criminal can whiz past the typical call-center authentication process and steal account information or make unauthorized transactions.

Call-center agents are presumably focused on making the customer happy, which makes them especially easy targets for fraud attempts, says Inscoe. The key to fighting the escalating battle against such fraud may not be human intervention but emerging technologies.

One such tool is a voice biometrics engine, which can identify someone's voiceprint based on the way their voice reflects traits such as vocal tract length, mouth size and shape of nasal passage–physical characteristics even the savviest criminal should find difficult to impersonate.

NICE Systems, which sells speech analytics software to call centers, recently began offering voice biometrics and customer-interaction analytics that can alert an agent to fraud patterns in word choice or caller tone.

A big challenge, however, is keeping security efforts in the background and staying focused on good customer service on the front end. "Most customers are legitimate customers, so this needs to be managed very carefully," says Ori Bach, director of solution management at NICE Systems. ***–Stephanie Overby***



Ryan Hollenbeck
SENIOR VICE PRESIDENT,
GLOBAL MARKETING,
VERINT® SYSTEMS

Ryan Hollenbeck serves as Senior Vice President of Global Marketing for Verint Systems, the market leader in enterprise intelligence and security intelligence solutions. He is responsible for global marketing, including corporate marketing, marketing operations and programs, solutions marketing, marketing communications, and sales enablement. He also drives the Verint customer experience management initiative for enterprise markets.

FOR MORE INFORMATION:
Please download the white paper "Moving from Customer Service to Customer-Inspired Excellence" at www.cio.com/whitepapers/verint.

VERINT®

CIO
Custom Solutions Group

Customer-Inspired Excellence

Why listening to the "voice of the customer" drives operational excellence

Ryan Hollenbeck discusses how the latest workforce optimization and analytics technologies offer invaluable insights into customer actions, sentiments and organizational performance to help enterprises better align their products and services accordingly.

For years, businesses have focused on improving customer service, yet many fall short. Why?

One of the greatest challenges is breaking down organizational silos. Companies may have good customer service metrics, but today the customer experience extends far beyond traditional customer service. Cloud, mobile and social media are dramatically impacting how information is shared.

What are the challenges understanding what customers need and aligning products and services accordingly?

Customers now interact with businesses over a wide range of channels, including email, online chats, phone, surveys and social media. In this environment, customer support must be delivered in a unified way.

Alignment is critical. Instead of making decisions in a vacuum, why not use the actual voice of the customer to drive operational excellence? By correlating customer feedback across different channels, you can improve the overall customer experience and service delivery—from product shipment to website design. With speech analytics, text analytics and enterprise surveys, you can use customer sentiment to drive business decisions.

How do you move from customer service to customer-inspired excellence?

First, use the "voice of the customer'" to drive operational excellence. Analyze customer satisfaction in every department, including marketing, customer care, retail branches and back-office operations.

Second, incorporate workforce optimization, which helps improve the customer experience using the standard pillars—call recording, workforce management, quality monitoring—as well as speech and text analytics, enterprise surveys, e-learning, coaching, desktop and process analytics, and performance management. This helps increase service efficiency, provide more personalized service and deliver a better customer experience.

Workforce optimization technology gives CIOs a single unified architecture that is easy to maintain and administer, streamlines collaboration, provides a holistic view across the enterprise and reduces cost of ownership. A common GUI makes it easier to synchronize and use applications. Scorecards with performance alerts notify managers of less-than-satisfactory performance in real time so they can quickly coach employees on how to provide customers with the right resources.

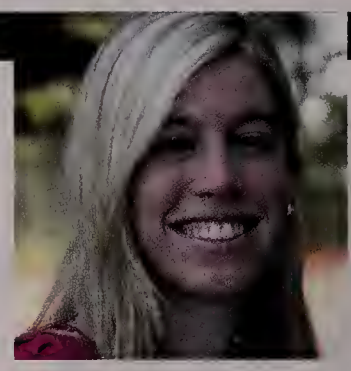
What's missing from the way most companies use the voice of the customer?

What's missing is joining the different customer listening posts, such as call centers, social media, email, the Web and feedback surveys. There's a significant opportunity to bring together data from all these sources to better understand the voice of the customer for improved and faster decision-making.

Speech and text analytics technology helps unearth problems quickly by analyzing text, the Web and social media to identify trends, adapt accordingly and better understand Big Data relative to the customer. Think about how much Big Data revolves around the voice of the customer—tens of thousands of unstructured voice, video and text comments, including free-form remarks at the end of customer surveys.

How do Verint's solutions help companies achieve customer-inspired excellence across the enterprise?

We help CIOs understand the Big Data challenge. With our unified workforce optimization solution, we help deliver a better customer experience. For example, workforce optimization technology can accurately forecast workload and staffing requirements for better service-level consistency. In today's economic environment, Verint technology provides businesses a valuable way to contain costs, drive revenue and differentiate themselves from the competition. ■



Seeking the Elusive Data Scientist

Big data's big shortage: Data wizards are hard to come by

BY LAUREN BROUSELL

CIOs are struggling to find and hire people with a perfect balance of business acumen, database expertise and effective communication skills. "Everybody wants these people," says John Reed, senior executive director at Robert Half Technology, an IT staffing firm.

You likely won't find many candidates with the words "data scientist" on their résumés. Some may not even know they are a fit for a data scientist job. Here are five tips for finding and hiring a data scientist.

1. Look for a Team Instead of One Person

You may not find every skill in one person, so you'll need to warm up to the idea of hiring two or more people to fill your needs.

According to an EMC survey of 497 data scientists and business intelligence workers, half the big-data scientists surveyed frequently partner with other data scientists, statisticians or programmers.

Tom Soderstrom, CTO of NASA's Jet Propulsion Laboratory (JPL), knows what he's looking for in a data scientist. They can manipulate satellite data about oceans or weather to develop new experiments, and they can both speak the language of business and work with big-data technologies, such as Hadoop. "It's someone who can teach data to tell an interesting story that we didn't already know." But "I've discovered that I don't think they exist," he adds. Instead, he says, "it could be a team of people. A data scientist could work with several interns and a community around them." (For more on hiring, see "The Great Talent Hunt," Page 32.)

2. Hire Internally

While Soderstrom is undertaking a thorough search for external candidates, he's open to grooming internal candidates. That option is usually cheaper, and internal people are familiar with JPL's environment and customers.

Soderstrom is eyeing mid-level engineers and programmers at JPL, "shaking the trees to see what comes out." He plans to surround the new hire with interns to help with some of the legwork. He also wants to carve out a career track for interns to become data scientists.

Robert Half's Reed recommends investigating whether there are employees who have the raw analytics skills you need and would benefit from an investment in training. The downside, he says, is that internal candidates have to learn as they go and may not be proficient at certain tasks.

3. Sell Candidates on Your Company

If you look outside your company, it's important to have a strong and compelling story to tell, Reed says.

"You have a cool story to tell if you work for Google or Facebook, but what if you don't?" he says. You have to get candidates excited about your company because these people want to work on the coolest projects.

You need a strong story about your company, because these people want to work on the coolest projects.

4. Seek Consulting Skills

Soderstrom says one quality he wants is a consultant mind-set. "A good consultant goes in and talks to a customer with a problem," he says. "He understands the problem and comes up with a creative solution with the customer."

If you're unable to find a person with that mind-set, an external consultant may be your next best bet. Reed suggests enlisting one if the idea of growing your own data scientists isn't appealing or won't work for your company. But he warns against hiring consultants who "may have the academic side of it, but not the practical work experience."

5. Join Networking and User Groups

When you're looking for data scientists, make sure they can find you. Make your company visible where these people go to network, Reed says. He suggests joining LinkedIn groups, social media groups and technical user groups. "Go on an awareness campaign," he says.

Contact Staff Writer Lauren Brousell at *lbrousell@cio.com*.
Follow her on Twitter: *@lbrousell*.

PHOTO BY IDG ENTERPRISE

Next-Gen Firewalls.

Born for carriers.

Bred for your enterprise.

Introducing the Dell SonicWALL SuperMassive 9000 Series.

Every day your network is asked to do more. Carry more traffic. Ward off more sophisticated threats. Meet the challenge with the new Dell™ SonicWALL™ SuperMassive™ 9000 Series, a Next-Generation Firewall that examines every packet without compromising network performance.

The SuperMassive platform was engineered to address the security and high performance demands of carriers and service providers. The new Dell SonicWALL SuperMassive 9000 Series offers that same high level of protection and performance to the enterprise in an elegant one-rack unit (1U) appliance that saves space, power, and cooling costs.

sonicwall.com/SuperMassive9000

DELL

The power to do more

Copyright © [illegible] All rights reserved. [illegible] SonicWALL is a trademark of Dell Inc. and all other Dell SonicWALL product and service names and slogans are trademarks of Dell Inc.

Cutting Costs and Carbon

Ricoh Europe's private cloud reduces IT infrastructure expenses and makes progress toward the company's environmental goals

BY STEPHANIE OVERBY

Five years ago, after numerous acquisitions, the IT environment at Ricoh Europe was spiraling out of control—running 26 ERP instances was just one issue. The company needed to get its IT house in order, improve customer service and make progress toward its environmental goals, says Ian Winham, CIO and CFO for Ricoh Europe.

Ricoh is in the document management and IT services business. "We work with customers on improving their infrastructure, and it came to a point where we had to start doing that for ourselves," Winham says.

Working with Indian IT service provider Infosys, Ricoh developed a private cloud with two T3 super hubs to provision both software and infrastructure as a service. The public cloud was a no-go for mission-critical applications. "We need to give our customers confidence that we know where their data is and when it is transferred," explains Winham.

A private cloud is being deployed across 35 Ricoh Europe operating companies; more than 50 percent of Ricoh's customers are currently running on it, as are all of its core internal applications. "We're now in the second stage, mopping up the legacy bits and pieces we've still got floating around," says Winham. "We still have small data centers and IT closets floating around that I want to get rid of."

The internal benefits have been clear. The company is consolidating nine data centers into two, which will cut IT infrastructure costs by 30 percent by eliminating 1,000 servers. It will also reduce carbon dioxide emissions by 16,800 tons (the equivalent of taking 3,350 cars off the road), helping the company make progress toward its 2050 goal of reducing total energy consumption by 87.5 percent.

Winham sees the cloud as a revenue-generator for Ricoh's services arm, too. One of the first cloud-based apps the company developed is an electronic invoicing system that complies with European Commission regulations—"something that has real value for ourselves and our customers."

Navigating Europe's regulations has been the most difficult part of moving to the cloud, says Winham. "The data protection directive is interpreted differently in every country, so you have to figure out what standard you should apply."

Ricoh also needed approval from the government of Luxembourg to decommission its data center there. "I never want to build a data center in Luxembourg again," Winham says. "Those nuances are the real pain. And it has nothing to do with the actual technology."

Stephanie Overby is a regular contributor to CIO.com's IT Outsourcing section.

Google Adds Fee-Based Support for Its Cloud Platform

Google has launched fee-based support services for customers of its cloud platform and infrastructure products, such as App Engine, Compute Engine, Cloud Storage and Big Query.

Google, often criticized for weak technical support for consumers and enterprise customers, rolled out a four-tier support program specifically for customers of its Cloud Platform services.

The Bronze tier, which is free, includes access to online documentation, community forums and billing help. The Silver tier, which costs $150 per account per month, lets customers email the Cloud Platform support team with questions about product functionality, best practices and service errors.

The Gold tier, which starts at $400 per month, adds around-the-clock phone support and consultation on application development, best practices or architecture issues.

The Gold tier's $400 fee is the minimum charge, and Google then adds a percentage of the customer's total monthly usage fees for all Cloud Platform products if those fees exceed $4,000 per month. For example, a customer that spends between $4,001 and $10,000 per month in usage fees would pay 9 percent of that monthly total to receive Gold-tier service.

The top Platinum tier gives customers direct access to a technical account management team. To obtain pricing for the Platinum tier, customers must contact Google.

Google commits to responding to issues it deems urgent in four business hours or less for Silver-tier customers, and in an hour or less for Gold-tier and Platinum-tier customers. For non-urgent issues, Google will respond in no more than one business day for Silver-tier and Gold-tier customers, and in no more than four business hours for Platinum-tier customers.

Google's Cloud Platform services compete against offerings from Amazon's AWS division, Microsoft, IBM and others.

-Juan Carlos Perez

verizon

THE PERFECT STORM IS HERE.

RIDE THE WAVE OF INTELLIGENT NETWORKING.

A rising tide of connected devices is the driving force behind next-generation networking demand. The "Internet of things" is here. And growing exponentially. Over 15 billion connected things on the Web in 2011 will grow to over 30 billion connected things by the year 2020.* **Is your network ready?**

THE NETWORKED WORLD ***IS NOT A SMALL WORLD ANYMORE.***

Networks are no longer focused solely on moving data from point A to point B. Instead, the network is now the key to the distribution of information and applications inside and outside the enterprise. Nearly every aspect of day-to-day business relies on constant connectivity.

Business networks face a growing list of demands: They have to accommodate increasing mobile traffic, devices and data volume, and are the central nervous system of a complex collection of devices, machines and applications.

BY 2020, TODAY'S 50 BILLION INTERMITTENT CONNECTIONS WILL GROW TO OVER ***200 BILLION INTERMITTENT CONNECTIONS.****

THE CHALLENGE:

+ **Meet exponential growth with minimal resources.**
+ **Control bandwidth to meet changing needs.**
+ **Provide secure access to mobile devices.**
+ **Deliver high volumes of data and high-quality content.**
+ **Route information and data intelligently.**
+ **Drive collaboration and encourage communication.**

*"Gartner: Top 10 Strategic Technology Trends for 2013," *Forbes*, October 2012.

86% OF COMPANIES SAY THEIR NETWORKS AREN'T UP TO THE TASK TO SPIN UP NEW SERVICES OR SUPPORT BUSINESS DEMANDS.*

By 2016, there will be three connected devices for every person linked to the Internet. Three years from now, 350 million employees will be using smartphones, and 200 million of them will bring their own.** By 2020, there will be 50 billion connected devices.

INVESTING IN THE *FUTURE OF SMARTER NETWORKS.*

Leading enterprise businesses are differentiating themselves by proactively adopting a long-term intelligent networking strategy. Those enterprises' technical decision makers (TDMs) and business decision makers (BDMs) are partnering to develop specific responses to potential business needs. And business leaders are responding. In 2012, 58% of new IT investments involved line-of-business executives, and that number is expected to grow to 80% by 2016. This year, enterprises will spend more than $39 billion in both network intelligence and bandwidth upgrades to support increased mobility, cloud and video demands. By making the right investments in line-of-business technology solutions, those businesses will be more agile and responsive to functional demand.***

How will your business face the tide of ever-growing network demand? The best strategy is to meet the challenge with:

+ **Greater network visibility.** Tools for gathering performance and analytics data.
+ **Dynamic networks.** Adjust network connections based on demand.
+ **Pervasive IP connectivity.** Technologies to make applications and data available anytime, anywhere, on any device or network.
+ **Purpose-built solutions.** New network models to match specific business needs.

NETWORK INTELLIGENCE: **INDUSTRY USE-CASE SCENARIOS**

REACH CLIENTS WHERE THEY ARE.

Challenge: An online brokerage-service company wanted to improve the customer experience by hosting learning seminars in the company's branches. The company needed a cost-effective solution to provide participants with wireless access to the Internet. It also wanted a reliable backup solution in case of wireline outages.

Result: Verizon deployed 4G LTE Internet connectivity across all branches, empowering the brokerage firm to provide wireless Internet connections separate from its corporate network and pool data. This allowed for fluctuation in usage, improved cost efficiencies and added redundancy for branch connectivity in the event of an outage on the company's primary wireline WAN.

COMPRESS TIME, SPACE AND DISTANCE.

Challenge: When an automotive electric-systems company needed instant communication to help it make timelier decisions, the company called on Verizon to build a hosted solution. It was no small task—the first step in the process was migrating 45,000 instant messaging users, and then implementing voice and video conferencing solutions for the senior executives.

Result: Easy-to-use, real-time communication that gave the organization the ability to stay ahead of the competition and make quicker decisions.

**Building for the Next Billion: What the New World of Business Means for the Network*, Forrester Research, Inc., October 2012.
***Top 10 Emerging Infrastructure Trends*, Gartner, June 2012.
****IDC Predictions 2013: Competing on the 3rd Platform*, IDC, November 2012.

Verizon was the number-one-ronked telecom company in Fortune *magazine's 2012 list of the world's most admired companies, including first-place ronkings for innovotion and quolity of products and services.**

UNCHARTED WATERS ***NEED EXPERT NAVIGATION.***

With our expertise in intelligent networking, Verizon can help you design and build a foundation for enterprise-grade network performance, with easily scalable and cost-effective solutions. Our industry-leading experience comes from managing more than 5,000 customer networks across the globe. Verizon is a single-source provider of global collaborative services with 30+ years of experience with over 40% of Fortune 1000 companies. We know our business and we can help yours.

1+1=3

Partnering with an expert networking solution provider can help you become more agile and responsive to functional demands. When identifying the right provider to partner for Intelligent Networking solutions, consider these key criteria:

+ **Global reach**
+ **Scalability**
+ **Security**
+ **Network management flexibility**

ENTERPRISES ARE TURNING TO VERIZON FOR INTELLIGENT NETWORKING SOLUTIONS.

Verizon is helping businesses build smarter networks with easily scalable and cost-effective solutions.

CONNECTED LOCATIONS
Connects information centers to locations, people and machines

REMOTE ACCESS BACKUP
Supports telemetry measurements, sales, backup and surveillance applications

CONTACT CENTER
Ensures access and consistent customer experiences across all communications platforms

VOICE AND VIDEO
Connects people with state-of-the-art tools that enable clear conversations

PROFESSIONAL SERVICES
Provides robust professional services for planning, design and build, operation and management

Why Verizon?

+ **Global network.** We have one of the world's largest connected global IP networks, delivering voice and data services in more than 200 countries.
+ **Coverage.** Verizon has the nation's largest 4G LTE network.
+ **Cloud.** Recognized as an industry leader in Gartner's *Magic Quadrant for Public Cloud Infrastructure as a Service and Web Hosting* report, published October 2012.**
+ **Security.** We operate 200 state-of-the-art data centers in 23 countries, and 13 top-tier network access points (NAPs) around the globe, with multiple layers of security and redundancy. Received a "Strong Positive" in *Gartner MarketScope for Managed Security Service.* ***

FOR MORE INFORMATION, CONTACT A VERIZON BUSINESS SPECIALIST OR VISIT US AT ***VERIZON.COM/INTELLIGENTNETWORKING***

*"Verizon Is Top Telecommunications Company in Fortune Magazine's 2012 List of World's Most Admired Companies," Verizon, March 2012.
**Magic Quadrant for Public Cloud Infrastructure as a Service and Web Hosting, Gartner, October 2012.
***Gartner MarketScope for Managed Security Service, Gartner, 2012.

Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.

verizon

4G LTE is available in more than 475 markets in the U.S. Network details & coverage maps at **vzw.com**. © 2013 Verizon Wireless.

verizon

INNOVATION **THINKS IT,**
COLLABORATION ***MAKES IT.***

{POWERFUL ANSWERS}

The mobile technology to turn bright ideas into successful projects. The innovators at Verizon have created enterprise-ready solutions for today's collaborative workforce. Using the security and speed of the Verizon 4G LTE network, along with the latest devices and video conferencing apps, these solutions help create a workplace where ideas move freely among groups. The result is an environment ready for inspiration to strike.

Because the world's biggest challenges deserve even bigger solutions.

Solutions for Mobility: verizon.com/mobileworkforce

4G LTE is available in more than 475 markets in the U.S. Network details & coverage maps at **vzw.com**. © 2013 Verizon Wireless

Beyond Bangalore

These IT outsourcing locations deserve a fresh look

BY STEPHANIE OVERBY

When you think of offshore IT outsourcing, you think of India. But "having all of your IT work done in one location is akin to having your entire retirement portfolio in a single stock—it's an unnecessary risk," says Esteban Herrera, partner with outsourcing consultancy Information Services Group.

Smart IT leaders seek to complement their India-based operations for risk-management and business-continuity purposes, but they also may be looking for specific language fluency, proximity, lower attrition or less wage inflation. Certain skills, such as automation testing, come at a premium in a hot market like India, says H. Karthik, vice president at outsourcing consultancy Everest Group. And many emerging countries are getting aggressive with perks like new software parks and welcoming tax or regulatory environments to win new IT outsourcing business, says Herrera.

Here are six IT and business-process outsourcing (BPO) destinations that may be worth a look.

COLOMBIA: Several Indian IT services companies have set up shop here. "Colombia is positively hot right now," says Herrera. "It also is large enough to have multiple cities that offer credible, educated workforces." Neutrally accented Spanish makes Colombia attractive for enterprises looking for regional customer support or IT help desks.

"Like other Latin American countries, [Colombia] offers same-time-zone coverage for increasingly important IT considerations like agile development and Web support," says Alan Hanson, senior vice president with outsourcing consultancy NeoGroup. Costs may be 20 percent higher than in India, but that may be offset by management savings due to proximity, Hanson adds.

Pros: Large labor pool, low operational costs

Cons: Low IT services maturity, limited English skills

PERU: Latin America's up-and-comer is garnering attention for its rapidly growing economy. "Companies that want early-mover advantage might be able to capture a loyal, long-term workforce if they set up shop right now," says Herrera.

Pros: Low operational costs

Cons: Nascent market, lower-quality education system, limited English skills

VIETNAM: Some IT leaders may be surprised to find that when you take into account wage inflation, real-estate costs, taxes and salaries, Vietnam ranks high among outsourcing destinations, says Hanson.

Pros: Low cost of operations, strong government support

Cons: Rampant software piracy, weak intellectual property laws, limited English skills

BULGARIA: Bulgaria is one of the least expensive destinations in this region. "A combination of excellent educational institutions (if still somewhat influenced by the Soviet, rote style of learning), a passion for higher education among its citizens, and relatively good availability of European language skills has fueled a lot of growth here," says Herrera.

Pros: Availability and quality of IT skills, proximity to Western Europe, BPO maturity

Cons: Low IT services maturity

TURKEY: Turkey is volatile, but viable, says Herrera. "We still have relatively few clients going here, but would not instinctively advise against it."

Pros: Large labor pool, European language support

Cons: Security and geopolitical risks, nascent IT market

SOUTH AFRICA: Like Bulgaria, South Africa has so far made its mark in BPO. But its bang for the buck is driving interest in sending IT-related work here as well. The country also boasts sophisticated finance- and accounting-specific skills, says Karthik.

Pros: Large English-speaking labor pool, European time zone compatibility, developed infrastructure

Cons: Higher operating costs than most offshore locations, lower IT services maturity

Smart IT leaders try to **complement** their India-based operations for risk-management and business-continuity purposes, or to avoid the worst of wage inflation.

Stephanie Overby is a regular contributor to CIO.com's IT Outsourcing section.

Market Pulse

Unified Data Management Delivers Results

WHEN IT AND THE BUSINESS COLLABORATE, DATA MANAGEMENT DRIVES PRODUCTIVITY, AGILITY, AND INNOVATION.

There's no question that big data is a prominent driving force that's making enterprises examine their data management strategies today. Companies need to figure out how to analyze large quantities of rapidly changing data and use that insight in near real time to improve their business, boost productivity, and remain agile in an increasingly competitive business world.

However, big data isn't the only force at work that's shaping data management approaches. Disparate sources of data need to be integrated to gain a holistic view of your organization, including customers and partners. Older IT infrastructures need to be revamped or replaced in the name of efficiency and cost reduction. New ways of working must be supported so that employees have access to the data they need anytime, from anywhere.

As IT organizations look to meet these needs and align themselves more closely with business goals and operations, unified data management strategies emerge as a path to success. Enterprises are adopting the tools they need to support this goal. According to a recent study conducted by IDG Research, of 118 IT professionals, the majority of respondents say data integration tools have been deployed or are on their company's roadmaps. And nearly three-fifths of respondents at organizations that have data management solutions in place say they are planning to continue making near-term investments in these types of tools.

The advantages are clear: Unified data management solutions can enable IT departments to make significant contributions toward business success.

Building better data management

While the advantages of a unified data management strategy are evident, evolving the organization to better achieve business goals can be complex.

"Environments are becoming more complicated; adding to that is the fact that it's not just about technology anymore, but how the business thinks about and uses data, and the integration of information," says Kimberly Nevala, director of business strategies with SAS Best Practices. "So much information is out there, it can be fairly overwhelming. Enterprises need to take a very deliberate approach and realize that effective interaction between the business and IT is required."

According to the IDG Research survey, challenges to implementing unified data management strategies include complex and numerous data sources (36%); lack of an enterprise-wide, unified view of data (36%); no formal data governance guidelines in place (31%); unclear roles/responsibilities for data management (30%); corporate culture (29%); overlapping or competing data management processes (27%); lack of data integration strategy (27%); and inability to perform searches across multiple data silos (23%).

Enterprises can benefit from IT and the business working together to build unified data management strategies. Together, IT and the business can collaborate to gain executive-level support and funding, develop a comprehensive strategy roadmap aligned with business goals, identify which data management tools are best equipped to support these goals, and incorporate best practices throughout the process. Taking a comprehensive, collaborative approach to data management puts enterprises in the best position possible to leverage the data that drives the business. ■

Download the whitepaper to learn more:
www.cio.com/whitepapers/sas

CIO Custom Solutions Group

sas

The Great Talent Hunt

BY STEPHANIE OVERBY

To capture more IT pros with business skills, **award-winning CIOs** are taking radical steps to train, recruit or grow the **hybrid staff** they covet

Over a two-year period, Bill Weeks saw 70 percent of his development team at SquareTwo Financial walk out the door. More than half of them left on their own. Weeks fired the rest.

It might sound like a leadership disaster, but it was the best thing that had happened to the $250 million asset-recovery company's IT organization in years.

When Weeks took over as CIO in 2010, the company was in growth mode, but IT was falling behind. He wanted to build a results-focused technology team, but many on staff refused to engage with business. "The previous CIO had told the IT staff, 'Business people are busy doing business things, and if I catch you talking to them, I'll fire you,'" says Weeks. "That's the exact opposite of what I believe."

Many IT executives face situations like Weeks', where they're challenged to build IT departments that are more strategic, serviced-oriented and engaged with the business—but they're dealing with employees who lack the skills to make the transformation.

ILLUSTRATION BY MICHAEL MORGENSTERN

Mobile Productivity Takes Off

Emirates elevates in-flight customer experience with Windows 8 Enterprise

Delivering extraordinary customer service and experiences tops many business and IT strategies today as companies strive to meet increasingly high expectations. Emirates, one of the world's fastest growing airlines, is taking mobile productivity to new heights—using a new Windows 8 custom line of business application on the HP ElitePad 900 tablet to deliver an amazing user experience that meets all the Emirates requirements of enterprise IT.

» The Experience Factor

Emirates has more than seven years of experience running a custom application on a Windows-based device that has enabled its chief flight attendants, or Pursers, to deliver the best in-flight passenger experience. Each Purser was equipped with a laptop running a proprietary crew and customer management application called Knowledge Driven In-flight Service (KIS) to improve crew management and customer experience.

The laptops, however, came with their challenges—from having to be plugged in due to limited battery life, thus limiting the Purser's mobility with the device, to being bulky and incompatible with the agility required by crews. As a result, says Emirates Purser Anita Grillo, "We had to ask passengers to come back to the galley where the laptop was plugged in to verify information, and passengers would have to wait until we clicked through pages that were sometimes slow to load."

When Microsoft released Windows 8, Emirates wanted to deploy a touch-based version of KIS for use on tablets featuring the enterprise-grade manageability and security of the latest operating system.

"We quickly rebuilt the application running on Windows XP laptops to a completely new application on Windows 8," says Kevin Griffiths, Senior Vice President, Cabin Crew, at Emirates. "This means our Pursers still have access to the information they need when and where they need it." Pursers are being equipped with HP ElitePad 900 tablets with the KIS line of business application at their fingertips as they move through the cabin to provide immediate personal service. This solution will become standard on all aircraft in the Emirates fleet in 2013.

» Mobile Productivity Boost

Many organizations today are striving to increase the productivity of mobile workers, whether they're 30,000 feet in the air on Emirates' airplanes or visiting a customer's office. A common goal is to deliver a unified, consistent device experience regardless of whether a worker is using a desktop, laptop or tablet.

Windows-based tablets can be a compelling business tool

PHOTO COURTESY OF EMIRATES

to better serve customers, providing always-on connectivity to keep workers up to date, allowing at-a-glance views of critical data and providing remote access the corporate infrastructure and cloud apps.

Emirates discovered that Windows 8 Enterprise delivers the experiences that users want, offers new possibilities for mobile productivity, and provides IT with a secure, easy-to-manage infrastructure. Windows 8 provides a new way for users to interact with a mission-critical app, running on a sleek device.

» Emirates' Mission-Critical App Aloft

Emirates had standardized its corporate PCs and portable computers on the Windows 7 operating system. But it also decided to evaluate mobile computing platforms for a new version of the KIS application.

"We needed an operating system that would integrate with our corporate IT environment and offer enterprise-class security and manageability," says Patrick Naef, Divisional Senior Vice President for IT at Emirates.

Windows 8 improves on the security and manageability features available in Windows 7. Emirates' Pursers were excited that Windows 8 offered new ways to interact with KIS on tablets. Pursers on flights use KIS to brief the cabin crew before every flight and understand how best to meet the personal preferences and needs of passengers. The crew can also use the application to easily conduct in-flight upgrades to business class or first class for Emirates Skywards members. Customer feedback can be collected and immediately routed to headquarters upon landing.

» Managing the New Mobile IT

Emirates employs 50,000 people and operates more than 2,500 flights per week to over 130 destinations in 77 countries across six continents. It is one of the fastest-growing, most innovative airlines built on a foundation of outstanding customer service. Griffiths' Cabin Crew operations works closely with Naef's IT group, constantly seeking ways to enhance customers' experience.

To initiate deployment of the new tablet-based KIS application across the fleet, it used Windows To Go, a feature of Windows 8 Enterprise and Software Assurance. Emirates IT, in partnership with Microsoft Consulting Services, created a desktop image to start and run from USB drives. They were then distributed to 100 Pursers who used them on their Windows 7 tablets at home before participating in an in-flight pilot using the application on Windows 8 HP tablets.

Windows To Go provides a corporate image to run Windows 8 from a certified USB drive on a compatible computer regardless of the OS currently running on the hardware. With this feature of Windows 8 Enterprise, businesses are able to address a wide range of mobility and travel requirements, ensuring productivity regardless of whether or not a network connection is available. Businesses can provision the Windows To Go USB stick to permit access to the enterprise network so employees are able to stay productive, whatever their choice of PC.

Of course, as people become increasingly mobile, security and manageability of their devices are crucial. Emirates IT uses BitLocker encryption technology in Windows 8 to help protect data and is able to manage the devices remotely using the Active Directory Domain Services of Windows Server.

» Mobile Experience Users and IT Love

Windows 8 helps ensure that remote, mobile and branch office employees work in a security-enhanced environment with the devices and apps that best fit their needs.

Windows 8 Enterprise is great for businesses because it is designed to deliver the experiences people love and the enterprise-grade capabilities that organizations require. "For our latest version of KIS, we wanted an amazing user experience that met all the Emirates requirements of enterprise IT," says Kevin Griffiths, Senior Vice President, Cabin Crew. "With Windows 8 and the HP ElitePad 900, we met that challenge."

To learn more about how businesses are going mobile with Windows 8 Enterprise, please visit **www.microsoft.com/enterprise**

Microsoft

CIO
Custom Solutions Group

Copyright: The information contained in this document represents the current view of Microsoft Corporation on the issues discussed as of the date of publication. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information presented after the date of publication. This white paper is for informational purposes only. MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY, AS TO THE INFORMATION IN THIS DOCUMENT. Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in, or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Microsoft Corporation. Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.
© 2013 Microsoft Corporation.
All rights reserved. Microsoft and all listed Microsoft product names are trademarks of the Microsoft group of companies.
All other trademarks are property of their respective owners.

NEW MEMBERS OF THE CIO HALL OF FAME

Our tough judges selected three CIOs—out of 13 nominated—who excel at producing business results

According to a recent IDG Enterprise (IDGE) survey of 696 senior IT and business executives, more than half of respondents said IT must be business-savvy (61 percent), collaborative (53 percent), and innovative (50 percent). The only problem is that finding "hybrid" staff—those with that combination of tech skills and business savvy that CIOs covet—remains a problem. Many IT employees still take a traditional view of their role, as order-takers rather than business partners; indeed, 58 percent of respondents to the IDGE survey rated their IT staff as reactive. And among their top IT-management challenges were cultivating strategic thinking (51 percent), developing business understanding (42 percent), and converting technologists to strategists (37 percent).

This talent issue is hardly new. IT leaders have preached the importance of the blended IT professional for years. But after a decade, it's clear that help is not on the way. Schools won't suddenly churn out enough perfect, well-rounded IT employees. Tech-knowledgeable business people aren't going to apply for IT assignments in droves. Developers and data warehouse professionals won't suddenly arrive at work as business strategists.

Leading CIOs are taking matters into their own hands. Some are firing folks who can't make the transition, or changing the way they hire. Others are encouraging existing staff to be more business-oriented or populating their IT ranks with recruits from the business. Some are mentoring. Others are stretching.

Sometimes it works. Sometimes it doesn't. But CIOs are making progress. And, given what the business expects of IT, they don't have a choice.

What's **WRONG** With IT

Given the chance, 27 percent of IT and business leaders would remake their company's IT departments from scratch, according to the IDGE survey. It's a telling statistic, a sign of frustration at a time when CIOs are under pressure to boost business results and develop customer-facing applications but may lack the kind of staff that can do that. According to a CIO Executive Council survey of 200 IT leaders this year, IT organizations are least proficient in the "ability to develop, market and present compelling visions of IT-enabled business opportunities" followed by the "ability to appreciate and incorporate external customer needs and experience." If corporate IT were composed of employees with equal parts business and technology knowledge, those might be dominant skills. So why don't CIOs just hire more well-rounded workers? Because they don't tend to exist in the wild.

KENT KUSHAR
CIO
E&J Gallo Winery

CAREER His IT career spans nearly 50 years, from his first job as a tabulating equipment operator in 1963 to his current position as technology leader and visionary at the family-owned Gallo Winery. During his 17 years with Gallo, Kushar has developed a close and strategic relationship with the Gallo family and executives, while creating innovative, customer-facing applications that achieve competitive advantage and produce desired business outcomes.

JUDGE'S VIEW ***"He represents a model of a long-term CIO at one company. He has aligned IT very nicely with the business goals and management, which has driven the business to retain him over a long period—something that is not easy given the normal tenure of CIOs."***

DAVID SMOLEY
CIO
AstraZeneca

CAREER Smoley joined AstraZeneca as CIO last month after a lengthy stint at Flextronics International, where he oversaw the company's $250 million IT budget and 2,400 IT employees in 30 countries. In addition to adopting a "lean IT" approach that keeps costs low, he created a culture of innovation resulting in high-ROI projects, such as consolidating 80 HR systems into one global cloud-based tool.

JUDGE'S VIEW ***"Dave is a true thought leader in cloud/[software-as-a-service] applications and has been a champion and adviser to many CIOs."***

TERI TAKAI
CIO
Department of Defense

CAREER After making a big impact as IT strategic planner at Ford Motor Co., she moved into the public sector as CIO for the state of Michigan and then California. Now Takai faces perhaps the biggest IT challenge of all: bringing the Pentagon and its $37 billion IT budget into the age of cloud and mobile computing.

JUDGE'S VIEW ***"Someone who knows technology and how to get things done in a very difficult environment. A long track record of success."***

For a list of the judges, go to: www.cio.com/article/731629

If this ad does not deliver results, we're not paying CIO magazine.

The above is just wishful thinking, alas.
Because, as we're all well aware, very few businesses operate on the 'pay for results only' model. Unlike us. Our Business Outcomes model ensures that our clients pay only when the mutually agreed upon outcome is met. This ensures that we keep the costs truly variable, reduce operational expenses, share risks and help you get to the market faster. So you end up paying for results, not effort. Get in touch with us, you could end up saving substantial amounts of money, plus justify what we're paying CIO magazine.

It's time to pay only for outcomes.

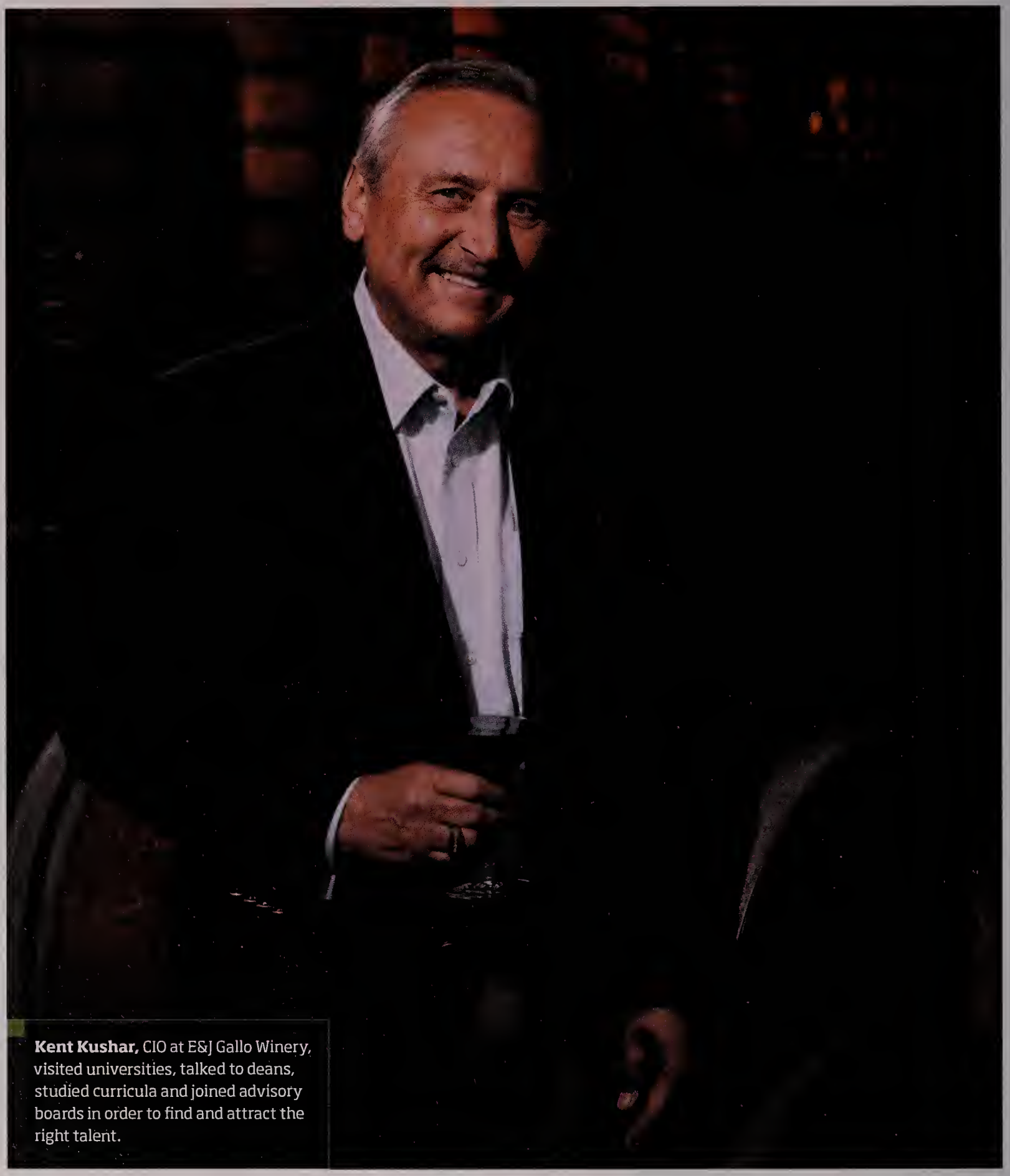
Switch to iGATE.

The only company that offers the

Business Outcomes model.

Contact us at
payonlyforoutcomes@igate.com
www.payonlyforoutcomes.com

iGATE
iTOPS for Business Outcomes



Kent Kushar, CIO at E&J Gallo Winery, visited universities, talked to deans, studied curricula and joined advisory boards in order to find and attract the right talent.

PHOTO COURTESY OF E&J GALLO WINE

"Business savvy comes from years of experience working on the business side, generally at a level high enough to have a broad cross-functional perspective," says Dave Smoley, a 2013 CIO Hall of Fame inductee. "Because technical competence comes from years of experience working and training in math, science and technology, it is rare to find both in one individual." Smoley, until recently the CIO of Flextronics International, joined pharmaceutical company AstraZeneca as CIO on April 15.

Bringing business professionals into IT can work, but their technology knowledge can be shallow. Imbuing techies with a business point of view is difficult.

"It's hard for tech people—even middle managers on up to senior managers—to think the way that the business thinks," says Teri Takai, CIO for the Department of Defense and a 2013 CIO Hall of Fame inductee. "They tend to explain things from their own perspective."

NOW

rolling out a new IT service is

~~too~~ freak'n ~~hard.~~

easy.

The end of no. The beginning of Now.

ServiceNow is the enterprise IT cloud company. We focus on transforming enterprise IT by automating and standardizing business processes and consolidating IT across the global enterprise. Organizations deploy our service to create a single system of record for enterprise IT, lower operational costs and enhance efficiency.
To learn more, go to servicenow.com/cio.do

servicenow

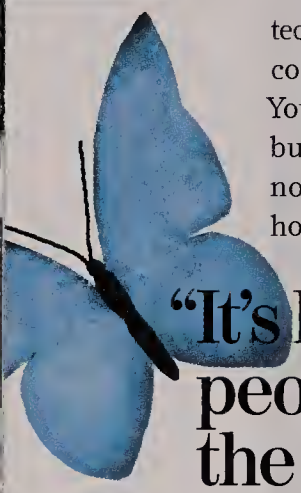
Raja Musunuru, CIO at The Steritech Group and a 2013 Ones to Watch honoree, was once a case in point. "I am an engineer by study, and to me, everything seemed to be a problem that needed to be solved—and solved in a particular way," Musunuru says. "While that works well in certain scenarios, it's not a foolproof recipe for value contribution to the business."

When Weeks arrived at SquareTwo Financial, only a couple of people at the very top of the IT organization worked with the business at all. "The rest were spoon-fed what to do. It was a huge bottleneck that stifled creativity and collaboration," says Weeks. "It was crazy."

REBUILDING—and RE-BRANDING—IT

Sometimes the best thing you can do is blow up the IT department up and start over.

Weeks explained his expectations to the technology team: "We're moving to this more collaborative and engaged environment. You're going to have to understand what our business needs to be successful. You may not want to do that, and I don't want any hostages." Some people got it, particularly



"It's hard for tech people to think the way that the business thinks."

–TERI TAKAI, CIO, DEPARTMENT OF DEFENSE

the company's underused business analysts. Others fled, like many on the development team. It wasn't just the business focus that drove them out, it was the added accountability. "There were people that had been hiding under a rock," Weeks says.

Weeding out those who couldn't adopt the business point of view was half a solution. To replace them, Weeks had to hunt down that rare breed—the business-savvy, collaborative programmer. "We needed a combination of tech skills and collaboration skills," says Weeks. "And we're primarily a Java shop, so that made it even more difficult."

Weeks started by building a new employment branding campaign that emphasized the financial success of the company and its desire for A-level programmers. He imple-

ONES TO WATCH WINNERS LIST

CIO magazine and the CIO Executive Council's annual **Ones to Watch** award identifies rising stars in IT. To be honored, these future CIOs must have demonstrated leadership, driven innovation and delivered value to their business.

PETE CORRIGAN
SVP of Technology and Operations
Allstate Insurance

KEVIN DANA
Director of Application Management
Deloitte Touche Tohmatsu

CHANDRA DHANDAPANI
SVP of IT & Divisional Information Officer
Capital One

BENEDICT CABRERA
Senior Director of Business Systems Delivery
Covanta Energy

ERIC KEANE
SVP & CIO of FedEx Express Solutions
FedEx Services

RAJA MUSUNURU
CIO
The Steritech Group

LT. COL. BOBBY SAXON
Division Chief & Program Manager of Enterprise Management Decision Support
U.S. Army G-3/5/7

BRIAN KEINSLEY
VP of Applications Engineering
Humana

KAREN RYAN
Manager of Application Administration
Newport News Shipbuilding division of Huntington Ingalls Industries

ERIC JOHNSON
VP of Global Applications
Informatica

BRET (WILLIAM) WINGERT
VP of Business Transformation
Insight Enterprises

KAREN FREEMAN
Deputy Associate CIO
Internal Revenue Service

SUZANNE BEST-FOSTER
VP of Enterprise Infrastructure Services
Jacobs Engineering

DEBORAH MOREWITZ
Director of IS Technology
Newport News Shipbuilding division of Huntington Ingalls Industries

YANG LU
VP of eCommerce Systems
Scholastic

CINDY KOTTLER
Director of IT
St. Peter's Healthcare System

RICHARD WALL
Executive Director of IT-Software Engineering
Supermedia

AMITA DHAWAN
VP of IT Business Service Management
The Clarox Campany

TODD SCHROEDER
Director of Business Systems Management
Animal & Plant Health Inspection Service, USDA

ALIN D'SILVA
VP of IT, Chief Administrative Office
Verizon

For a list of the judges, go to: www.cio.com/article/731629

Copyright © 2013 VMware, Inc.

VMware revolutionized the data center with virtualization.

Consider this an encore.

The Software-Defined Data Center.

Expand the virtues of server virtualization to the entire data center. Virtualize servers, storage, networking and security for unmatched levels of automation, efficiency and agility. VMware vCloud® Suite 5.1, available now, delivers the software-defined data center, the data center for the new era of cloud computing.

vmware®

Visit vmware.com/sddc

mented agile methodology that required development teams to work closely with the business. And he appointed business analysts as the product owners of those development teams.

At E&J Gallo Winery, the world's largest wine producer, longtime CIO Kent Kushar also knew it was time to turn his reactive, back-office IT function into a proactive, customer-facing business partner. What he didn't know was whether he had the right people to do it. "We knew we had some who could make the change," says Kushar, a 2013 CIO Hall of Fame inductee. "They latched right on." But many did not, despite "lots of chances to make it."

For a new role—the customer-facing IT representative—he wanted more than a business bent. He wanted a graduate business degree. Finding the best and brightest MBAs was one thing; finding those who wanted to work at Gallo headquarters was another. "You don't recruit a Harvard grad to come to Modesto," Kushar says. He zeroed in on schools like the University of Arizona, the University of Texas, California State University Stanislaus, and the University of Arkansas.

"My CFO and I did it ourselves. We didn't outsource it. We got on airplanes. We talked to deans. We studied the [curricula]. We joined advisory boards," Kushar says. "And we were able to attract the right talent."

REACHING ACROSS the Aisle

When Smoley was populating his global customer solutions group at Flextronics, he too wanted top business-minded tech leaders. "We often get them from manufacturing sites, which are essentially really small companies," Smoley explains. "This is a good source of talent because if an individual has been an IT leader at a manufacturing site, they have absolutely dealt with customers and business management directly. They have experienced the pressure for reduced cost and increased speed. So these folks are business-savvy and technically strong."

> "I look for open-mindedness, a questioning mind-set, candor, critical thinking, the ability to network confidently."
>
> -DAVID SMOLEY, CIO, ASTRAZENECA

They don't all want the job; some are happy where they are. But for those that do, Smoley has a career path for them. "We also make it a practice to offer our IT talent the option to work on the business side as a career path, and we actively recruit from non-IT functions in the company," says Smoley. "Our mission [was] to be the career destination of choice for all employees at Flextronics."

One problem Smoley often encounters, however, is overestimating the technical capabilities of business people. "While one doesn't really need to be a technologist in these roles, there is a need to understand how to break a project down into work tasks and dependencies [and] assess technical risk," he says. "Without that capability, a project can go into the ditch quickly." He needs staffers who have enough technical knowledge to stay out of danger and who are willing to seek assistance when things get hairy. Smoley encourages his business-minded folks to spend plenty of time with technologists inside and outside the company—suppliers, partners and peers.

TALKING to Aunt Linda

At the DoD, Takai's lieutenants excel at highly technical projects, but she reminds them that their technical solutions are only as good as their ability to communicate them to senior defense leaders. "I tell them you have to use Aunt Linda language," she says. "How would you explain this to your mother, assuming she's no expert. Or your neighbor?"

She's always peppering her direct reports with questions about their projects—not the technical details of the programs, but their intended results. It's to help her prepare for meetings with department secretaries and undersecretaries. But it drives home the point that it's business outcomes that matter. "I try to take them to meetings whenever I can so they can see the dynamics themselves," Takai says. Sometimes that's enough. In other cases, Takai will identify expert explainers to emulate.

At SquareTwo Financial, it took time for IT employees to get comfortable with business discussions. "It's difficult for a developer to stand up say, 'I'm going to show you what my product does and do it in a way that a business person can understand it.' Not, 'Hey, I wrote this code this way and here are my SQL statements,' but, 'Here's the business value of why I designed this the way I did,'" Weeks says.

When Musunuru was interim CIO at Gaylord Entertainment, he says he found it valuable to be paired with subject-matter experts, which gave him not only more domain expertise but also a deeper understanding of how technology solutions could affect the organization—for better or for worse. "They trained me in assessing whether specific initiatives and IT processes are a net value addition or subtraction to the broader organization," he says. The engineer who once solved problems in a vacuum evolved into a collaborator.

Shortly after joining Gaylord, Musunuru partnered with business executives to understand their growth imperatives and the operational challenges causing customer satisfaction issues. He formed a cross-functional team to map the customer journey and develop solutions to improve customer experience, including the implementation of a Web-based booking engine to optimize the reservations process, a cloud-based call-center-optimization solution that improved conversion rates while reducing operating costs, and a campaign-management system that transformed marketing operations.

It Takes TWO

Sometimes, however, a techie is just a techie.

And that's not a bad thing. "It's hard to be a technical person today," says Kushar. "If you can find people who keep their heads when all about them are losing theirs, that's valuable."

Gallo's IT infrastructure staff, for example, is very focused on the technical aspects of the environment to ensure it is relevant, usable, world-class and ready for business growth, says Kushar.

"I don't want all business savvy," agrees Takai of the DoD. "If you only have that with a light dusting of the technical, you would never adequately address the challenges we have here."

Takai is careful not to chase away the experts. "The thing that hasn't worked is my trying to make technical people less technical," she says. "You might move them a little bit, but they're never going to step back and take a management perspective. It's just not who they are. It's frustrating for them."

Instead, Takai finds someone with complementary business skills to work with them.

"I may have an area where I need a lot of technical expertise and also the ability to interface with our business people—like cybersecurity. If I have someone who understands the technology but is not as good at dealing with the front office, I bring in a second person who's better at marketing skills and dealing with senior leaders and pair them up," says Takai. "You don't have to get all your expertise from one person."

"Success in IT comes from building an organization that has a mix of strong technical individuals as well as business-minded individuals that are leading in a way that helps the techies understand how they fit into the business and why what they do is important," says Smoley. "Simultaneously, [you have to help] the business-minded folks understand the technical strategies and road maps so they can leverage them and represent them to the business. It is a continuous challenge."

The Making of a STRATEGIST

Are IT strategists made or born?

At Gallo, Kushar recruits about half of his strategic thinkers as ready-made hires from the outside world and develops the rest internally. "In part it's about allowing some people inside the organization to think differently," he says.

For Suzanne Best-Foster, vice president of enterprise infrastructure services at Jacobs Engineering and a Ones to Watch honoree, the key is "investing in more listening than talking and suspending the techie drive in me to provide solutions based on what I know and not what could be." Her transformation to strategic thinker has been fueled by listening to others challenge her thinking or encourage her to broaden her vision. "I have grown immeasurably through the opportunities they have made for me to gain insight," she says.

Smoley says strategic thinking must be a core tenet of talent development. "I look for open-mindedness, a questioning mind-set, candor, critical thinking, [and] the ability to network confidently, internally and externally," Smoley explains. When

Suzanne Best-Foster, VP of enterprise infrastructure services at Jacobs Engineering, says becoming a strategic thinker requires listening to different perspectives.

he finds junior employees who have those traits, he matches them up with a senior mentor. "[It] helps to accelerate learning through more frequent conversations around what works and what doesn't—and why.

"Success as a strategist comes from a broad awareness of strategic options and what has and hasn't worked in the past and currently," Smoley says. "The technical world changes so fast that individuals have to be continuously assessing their assumptions and re-evaluating them."

PROGRESS, Not Perfection

One thing Takai has learned is that you can't take an entire IT organization and make it all strategic. "They're used to doing things a certain way and it's hard to get people to go at it differently," she says. "It's better to pick two or three people at a time," she says.

And she's realistic about the changes she can—or can't—make when some of her employees have 30 years of tenure; they were there before she was appointed and will be there after she leaves. "They know people like me come and go, and my ability to get them to think differently is limited."

Sometimes the dual demands of the hybrid role are too much for one IT professional to handle. Or pairs of seemingly complementary workers don't mesh. "The toughest part is to try to find compatible people," says Kushar. "Either you try to put someone that's too technical in a role and they don't have the customer skills, or they're too customer-skilled and don't have the technical awareness. Those people fall flat."

Weeks has spent three years already on the path to creating an IT organization that boasts both business and technology expertise. His direct reports finally all get it. But "when you get down to their directs, some get it more than others," he says. "Each rung down the ladder, it's harder for them to see the big picture. It's not perfect. It never will be."

Yet these top-notch CIOs keep at it.

"You don't hire people that get it and all of a sudden everything's cured," Weeks says. "You have to give them time to understand the business. And then they have to hire people that get it, and give them time to understand the business. It takes time." CIO

Stephanie Overby is a freelance writer based in Massachusetts.

PHOTO BY DANIEL HENNESSY

THE CIO LEADERSHIP EVENT

The Annual Conference of the CIO Executive Council

Congratulations

to the **2013 Inductees** into the **CIO Hall of Fame**
and this year's **Ones to Watch Award Honorees**

[Honorees are recognized at The CIO Leadership Event, held May 5-7, 2013 in Boca Raton, Florida.]

Hall *of* Fame

Kent Kushar
CIO
E & J Gallo Winery

David Smoley
CIO
AstraZeneca

Teri Takai
CIO
U.S. Department of Defense

Ones to Watch AWARDS

Suzanne Best-Foster
VP of Enterprise Infrastructure Services
Jacabs Engineering

Benedict Cabrera
Senior Director of Business Systems Delivery
Cavanta Energy

Pete Corrigan
SVP of Technology and Operations
Allstate Insurance

Alin D'Silva
VP of IT, Chief Administrative Office
Verizan

Kevin Dana
VP of Enterprise Applications
Avanade

Chandra Dhandapani
SVP, IT/Divisional Information Officer
Capital One

Amita Dhawan
VP of IT Business Service Management
The Clarax Company

Karen Freeman
Deputy Associate CIO
Internal Revenue Service

Eric Johnson
VP of Global Applications
Informatica

Eric Keane
SVP & CIO of FedEx Express Solutions
FedEx Services

Brian Keinsley
VP of Applications Engineering
Humana

Cindy Kottler
Director of IT
St. Peter's Healthcare System

Yang Lu
VP of eCommerce Systems
Scholastic

Deborah Morewitz
Director of IS Technology
Newport News Shipbuilding division of Huntington, Ingalls Industries

Raja Musunuru
CIO
The Steritech Group

Karen Ryan
Manager of Application Administration
Newport News Shipbuilding division of Huntington, Ingalls Industries

Lt. Col. Bobby Saxon
Division Chief & Program Manager of Enterprise Management Decision Support
U.S. Army G-3/5/7

Todd Schroeder
Director of Business Systems Management
Animal & Plant Health Inspection Service, USDA

Richard Wall
Executive Director of IT-Software Engineering
Supermedia

Bret (William) Wingert
VP of Business Transformation
Insight Enterprises

Ones to Watch Awards Produced by
CIO Executive Council
Leaders Shaping the Future of Business

Award Programs Proudly Underwritten by careerbuilder®
EMPOWERING EMPLOYMENT

Produced by
CIO and CIO Executive Council
Leaders Shaping the Future of Business

connect

SOUNDING BOARD

Making Collaboration Pay

To reap ROI, CIOs study employee behavior, create incentives and embed capabilities in current workflows

Paul Zyla,
VP & CIO, AgStar Financial Services

Joe Sniado,
CIO, Standard and Poor's Ratings Services

Veresh Sita,
CIO, Colliers International

PAUL ZYLA, AGSTAR FINANCIAL SERVICES

FAVOR THE CARROT OVER THE STICK

As a mid-market company supporting 630 end users, we need to be fiscally responsible, and tolerance for mistakes is low. Therefore, one collaborative tool we've implemented over time is instant messaging (IM), and each rollout has given us new reasons to promote its value. We initially promoted IM as a more effective collaboration tool and a substitute for email and phone calls. As we rolled it out to more areas, we noticed that people also used it to see whether someone was in the office, based on their status. In that sense, IM enabled better face-to-face communication by eliminating wasted trips to an empty desk. As our understanding of IM's value evolved, we were able to tailor our message to better meet the needs of our users.

When it came to videoconferencing, we opted for a big-bang implementation ▸▸▸

The **CIO Executive Council** is a global peer advisory service and professional association of more than 500 CIOs, founded by *CIO*'s publisher. To learn more, visit ***council.cio.com***.

PHOTO COLLAGE THINKSTOCK/TERRI HAAS

Work Smarter

The secure way to share
The professional way to work

Learn more at:
www.yousendit.com/business

yousENDit™

▸▸▸ **Collaboration** Continued from Page 46

that stressed the value of reduced travel. We reinforced this idea through contests and incentive campaigns. For example, we developed a simple application within the videoconference interface that calculated the travel mileage saved among meeting participants. Attendees who submitted their results were entered into a biweekly drawing for a gift certificate. This incentive helped our users engage and become more fluent in videoconferencing capabilities.

JOE SNIADO, STANDARD AND POOR'S RATINGS SERVICES

INTEGRATE WITH EXISTING BEHAVIORS

We've found that if the collaboration tool seamlessly integrates into the day-to-day workflow of an end user, adoption will take off. By its very nature, this requires an evolutionary process. For example, when we implemented a custom tool to help our teams prepare for ratings committee meetings, our primary focus was to build a platform to support our S&P ratings process and enable it through collaboration rather than simply introducing collaboration services independently. We do a significant amount of analysis to ensure that any collaboration tool we implement supports a defined business process. This prevents the creation of standalone systems and collaboration capabilities outside the existing workflow-management systems. Throughout the development process, we gather feedback via prototyping and other user-centered design techniques.

We also try to identify patterns in how the collaboration tools are naturally used in order to find a workflow solution based on how people actually interact. We start by identifying communities of practice, and then we look for similarities across teams to get a more complete understanding of our user base. Lastly, we prioritize and align the highest-value collaboration services that can be incorporated into the workflow in a way that's intuitive and productive for the users of the system.

VERESH SITA, COLLIERS INTERNATIONAL

THINK REAL-WORLD

When we implement a new collaboration tool, we prefer to start with pilot groups, including people with a natural affinity for collaboration. This helps us test our initial use cases, develop new ones and trumpet the value of these tools to more skeptical user segments.

We also re-engineered our training content to be less tool-centric and more task-centric. We give the user a real-life scenario, such as a call from a customer asking a specific question, and show them how to answer that question using the collaboration tools at their disposal, like enterprise search. We could have simply trained the user on the tool's search capabilities, but without the context it's harder to apply what they've learned.

We also created incentives to ensure participation. For example, we deployed an internal system best described as LinkedIn for commercial real estate. To drive up adoption and usage, we provided an incentive: The only way for a salesperson to be found on our website is for them to update their profile in the internal collaboration system, including their skills and top clients. By tying activities to outcomes that users care about, we were able to get people to collaborate via our tools.

TAKE Note

Training Your Lieutenants

DOWNLOAD If your most senior IT leaders don't have the skills they need, your company can't succeed. So how well are your lieutenants meeting the demands of business and IT leadership? Read the CIO Executive Council's new report to find out how your peers rated their team's proficiency in eight essential leadership abilities, and which of these skills they say will be most important in the next few years. You'll also learn about the alarming disconnect between the skills CIOs want and the actual focus of corporate training efforts. The paper gives benchmarks for hours and days spent on leadership development and explains which development techniques work best and why so many others don't get good results. council.cio.com/leaddev13

The Power of a CIO Mentor

WATCH The best career advice often comes from a good mentor. And in IT, there is nothing more powerful than a relationship with a CIO mentor. As technology becomes increasingly integrated into every aspect of the business, senior IT leaders face new challenges and expectations from business stakeholders. In this one-minute video, an IT manager at PDC Energy describes how his experience in the Pathways leadership development program helped improve his decision-making power with the business. council.cio.com/mentor

Closing the IT Skill Gap

REGISTER In the past, technical skills alone could get an IT worker in the door, but now more mature IT organizations also require soft skills like influencing, communication, leadership and business acumen. In this May 16 webcast, join Cora Carmody, CIO of Jacobs Engineering and member of the CIO Executive Council, as she shares how her company is investing in people to create readiness at the entry, middle and senior levels of IT. The webcast will explain how your organization can create a consistent pipeline of IT talent to meet your future business needs. council.cio.com/skillgap

Nnamdi Orakwue

VICE PRESIDENT OF CLOUD, DELL

Dave Asprey

VICE PRESIDENT OF CLOUD SECURITY, TREND MICRO

FOR MORE INFORMATION
on Dell Cloud visit dell.com/cloud

DELL

TREND MICRO™

CIO
Custom Solutions Group

Security for the Cloud: How to Achieve Peace of Mind

Many companies have virtualized their IT infrastructure. Now they are shifting data into the cloud, but concerns about public cloud security are holding some companies back. In response, Dell and Trend Micro have teamed up to create a multilayered security suite with cross-platform control. Executives from both companies explain:

What is the security concern executives most often overlook when sending data into a public cloud?

DA: If you are running a Web application and a cybercriminal penetrates that application, the data might not be stolen but malware can be put on your page. So if someone goes to your Website and gets malware on their iPhone or PC, it can really damage your company's reputation. How can customers feel like they can trust you when they can't trust your infrastructure?

Are private clouds inherently more secure than public clouds?

NO: Not necessarily. Public cloud providers, with thousands of customers, have best-of-breed controls in place, making the public cloud extremely secure. Private cloud security depends a lot on a company's security talent and its ability to dedicate resources to focus solely on security. For many companies, particularly smaller ones, that is not practical or possible. Companies with highly sophisticated security teams are as capable of securing private clouds as the biggest public cloud providers. But the general opinion that private clouds are inherently more secure than public clouds is not always true.

Many companies are using the cloud for secondary tasks. Is there a place for mission-critical data in the public cloud?

DA: If you encrypt the data and use policy-based key management, you can put sensitive production data into the cloud as safely as you can put it into your own data center. If someone penetrates your defenses and gets to the data, it is useless and can't be read. As long as you have control of the key, you are fine.

NO: The perception that people are using the cloud only for non-mission-critical data is starting to become outdated. Many of our customers are putting production-based data into the cloud, because there are technologies—such as identity access management, encryption, extensive logging and monitoring—that enable the cloud to be secure.

How does the Dell/Trend Micro team safeguard public and private cloud infrastructure with the same toolset?

DA: Trend Micro pioneered the virtualization security model for servers, which enables a single virtual machine instance to protect every virtual machine on the same physical server. Our Deep Security product is also available as a service offering with which you can have system control sitting in the cloud, separated from your operational control systems. It will handshake with every server instance, regardless of where each is running.

NO: Trend Micro came up with a secure cloud encryption product we really like. Customers can encrypt their data and manage keys consistently across multiple cloud operators, whether on-premises or off. The Deep Security product has antivirus, logging, and intrusion prevention, all of which can be applied to hybrid clouds in conjunction with the SecureCloud™ encryption product via a single management console that can be hosted in the customer's public or private cloud.

How else can the Dell/Trend Micro partnership ease concern for companies looking to move more data into the public cloud?

DA: Dell technology analyzes data to understand what is high-risk. And Dell's security suite includes Trend Micro's virtual patching, which gives you time to schedule updates instead of doing emergency 2:00 a.m. patching. When you combine Dell's investment in running secure, well-built infrastructure as a service [IaaS] with real-time security control provided by thousands of Trend Micro threat engineers, it is more secure than anything you can do yourself.

NO: Dell looks at real-world threat activity outside of the customer's network. The intelligence we gain from monitoring and managing devices for thousands of worldwide customers gives us insight into security risks. The added value of Trend Micro's security solution is yet another way that we can better protect our customers and manage security, risk and compliance.

Engaging Customers

For eBay's CIO, it all starts with reaching the hearts and minds of employees

BY SCOTT SEESE

Our company is at an inflection point, as our customers' behavior is transformed by digital, social, location-based and mobile tech. We start by asking what our customers need, and then ask how to help our employees meet those needs.

That's why engaging the hearts and minds of our people and developing the next generation of leaders have become top priorities in the CIO organization. It allows us to fulfill our team's mission, which is to deliver innovative thought leadership and breakthrough results for our customers, shareholders and employees.

I've consistently found that the number-one asset at any company is people. If you can enable employees to connect to the company's purpose in a deeply personal way, you will start to capture the heart of the employee. And if you give them time to be innovative about what they do, you will also start to engage the employee's mind.

We've established one day a month for employees to think, look at the broader horizon and consider problems the company needs to solve. During our hackathons, our engineers are set loose for 30 hours to solve some of these problems. For example, they came up with an innovative lunchtime system, in which people can order from the eBay Café using their mobile device, pay through PayPal and receive a text message telling them when to pick up their food. They get the food at a designated counter, where an iPad displays their photo and payment confirmation.

I also meet with each of my managers, regardless of level, at least once a month. And I encourage my teams to connect with each other as human beings. Then when they collaborate on initiatives, the trust level is high and the barriers to productivity and innovation are low.

A passion of mine is developing the next generation of women leaders for this company. Statistically, companies with women on their boards of directors tend to perform better. That's the power of leadership diversity. We have held events for women in our organization, including one with speaker Sandra Joseph, the longest-running leading lady on Broadway's longest-running show, *The Phantom of the Opera*. It was one of the most emotionally powerful days that the women said they had this year, and it's changed me as a leader. I've learned that many women need to be 90 percent certain about a career opportunity before pursuing it, and even then they'll look for an extra 5 percent validation before they jump. Men will jump when they're just 5 percent ready. My role is to encourage women by expanding their scope of responsibility a little before they think they're ready.

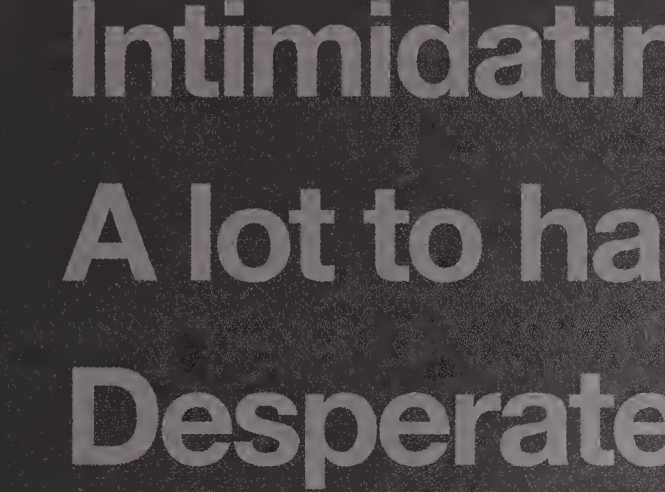
When I started at eBay in 2010, I wrote a three-year business plan for developing the next generation of leaders, and now we're planning our next three-year journey. In our annual employee engagement survey, we've improved by 14 points over the last two years, which is a great achievement considering that a three-point increase is statistically significant.

eBay's shared purpose is to enable connected commerce. In turn, my team's purpose is to enable eBay. No one is in a better position to innovate for our employees than us, and the most important asset we have to bring new ideas to life is our people.

Scott Seese is CIO of eBay Inc.

PHOTO COURTESY OF EBAY INC.

Intimidating.
A lot to handle.
Desperately needs a hug.



Don't worry, your data only looks scary.

iDashboards can help you effortlessly transform your menacing mountains of data into clean-cut, visually engaging intelligence. With drilldown capabilities, in-depth analytics and filtering tools, convenient mobile apps, and patented Interactive Intelligence that highlights key values across multiple charts and graphs, we'll help you see your data in a whole new way.

Mobile apps available!

Features patented Interactive Intelligence technology

For more information, to view a sample dashboard, or start your free trial, visit
iDashboards.com/meetyourdata

iDashboards
Driving Business Decisions

IT Wins the Race

For Daryl Wolfe, chief marketing officer at International Speedway, IT is key for connecting with fans

BY MARTHA HELLER

How are you using technology to engage fans?

Our goal is to give fans a thrilling experience driveway to driveway, which starts when they buy their tickets. We segment customers into categories and then engage them at the appropriate level. For example, "casual" fans, who have never been to a facility, can access 3D maps, live-chat options and information about parking. "Avid" fans will opt for more detailed event information on our digital channels during race day.

> Now we have IT people thinking like marketers and marketers thinking like IT people.

Tell me how technology affects the race-day experience.

A Nascar event is a combination of a music festival, state fair and sporting event, all wrapped around a thrilling race. We want our technology to augment that experience. We've invested in "in-seat" and "at-track" technologies such as FanVision, which offers 10 channels of video and in-car cameras that let fans experience the race from the drivers' perspective. Telemetry data provides information about car performance, and scanner technologies let fans in on the communications between the driver and crew. Mobile apps let fans navigate the facility, review event schedules and follow social media feeds.

How does technology keep the customer engaged once race day is over?

We send out post-event surveys, which allow fans to give us feedback on their experience. We measure 12 touch points, including their experience at the entrance gate or with food service or restrooms. Improving the guest experience at our stadiums is a never-ending journey.

If you had to hang your hat on one technology innovation, what would it be?

There are many, but one that comes to mind is a pilot program where we gave our fans cards that allowed them to register their names. They could walk around the property and check in at different tap towers [that dispense beer]. Our goal was to generate more customer data, but what surprised us was how much the fans loved the program. They turned it into a scavenger hunt, where they searched for these tap towers and posted their successes on Facebook. It turned out to be another way to entertain the fans during the event.

That requires a tight relationship between marketing and IT. How do you make that work?

Five years ago, our then-CIO (now VP and chief digital officer) Craig Neeb and I decided to foster a tight collaboration between IT and marketing. Our teams started attending each other's meetings, and now we have IT people thinking like marketers and marketers thinking like IT people. We changed our terminology—I stopped using terms like "psychographic," and Craig stopped saying "architecture."

What technology innovation are you most excited about?

It has to be how social media is continuing to evolve. Three years ago, I tried Twitter but didn't really get the value proposition, so I stopped using it. Then, about a year and a half ago, some colleagues suggested I give it another shot as it would be a great vehicle to voice my thoughts about the company, the sport and our fans. Now I love using the platform. It's such an efficient way to give and receive information.

Martha Heller is president of the executive recruiting firm Heller Search Associates and author of *The CIO Paradox*. Follow her on Twitter: *@marthaheller*.

Seeking Innovative IT & Business Professionals to Build Tomorrow's SMART Infrastructure Today!

Immediate Openings:

Chief IT Operatians Officer
Sr. Mgr, Infarmatian Security & Campliance
Sr Mgr, IT Custamer Support Operatians
Manager, Infarmatian Systems Security
Manager, Custamer Care Infarmatian Systems
Manager, Custamer Cantact Center Systems
Manager, Data Center
Manager, Quality Assurance
Sr. IT Security Analyst
Sr. Q/A Analyst
IT Praject Caardinatar
IT Cantract Administratar
Utility Business Applicatians Analysts

Sr. ETL/BI Develaper
Sr. COTS Applicatian Developer
Sr. IT Support Analysts (Service Desk)
Sr. Utility Business Applicatian Analysts
Sr. Voice Network Engineer
Oracle Applications Develaper
Master Data Management (MDM) Analyst
ECM Administratar/Developer
Business Process Specialists - Systems Development
Sr. Mainframe Systems Pragrammer/Administratar
Sr. IT Implementatian Suppart Specialist - Financial Systems
Sr. IT Implementatian Suppart Specialist - Utility Operatians

Washington Suburban Sanitary Commission
Located in Laurel, Maryland

As recognized by: CIO 100 HONOREE 2012 | COMPUTERWORLD 100 PREMIER IT LEADERS HONOREE 2013 | THE COMPUTERWORLD HONORS PROGRAM

To apply, please visit:
wsscwater.com/jobs

Personalized IT newsletters from Tech Dispenser.

You pick the topics. You pick the sources. You pick the frequency.

Build your own newsletter featuring your favorite technology topics — cloud computing, application development, security — over 200 timely topics, from more than 700 trusted sources.

Get started today. It's free.
www.techdispenser.com

TECH DISPENSER

Disturbingly personal newsletters

SALES AND SERVICES

EXECUTIVE COMMITTEE

President & CEO
Michael Friedenberg
508-935-4274

Executive Assistant to the President & CEO
Pamela Carlson • 508-935-4274

SVP of Human Resources
Patricia Chisholm
508-935-4734

SVP of Events
Ellen Daly • 508-935-4273

SVP & Chief Content Officer
John Gallant • 508-766-5426

SVP of Digital
Brian Glynn • 508-935-4586

SVP of Strategic Programs & Custom Solutions Group
Charles Lee • 508-935-4796

SVP, Group Publisher & CMO
Bob Melk • 415-975-2685

SVP &General Manager, Online Operations
Gregg Pinsky • 508-271-8013

SVP of DEMO
Neil Silverman • 508-766-5463

SVP & COO
Matthew Smith • 508-820-8102

SVP & General Manager, CIO Executive Council
Pam Stenson • 508-935-4089

SVP of Digital, & Publisher
Sean Weglage • 415-978-3314

SALES

Publisher Emeritus
Gary J. Beach • 508-935-4202

VP & Publisher
Adam Dennison • 508-935-4087

Senior Sales Operations Manager
Christine McKay
508-988-7836

Senior Sales Operations Coordinator
Bethany Whiffin
508-935-4092

Sales Operations Coordinator
Megan Roman • 508-820-8123

EAST COAST

Account Director, Integrated
Ellie St. Louis • 201-634-2332

Account Coordinator
Alex Pierce • 508-766-5345

NEW ENGLAND/CENTRAL

Account Director, Integrated
Brian Keenan • 847-508-8428

Account Coordinator
Stephanie Moran • 508-935-4154

WEST COAST

Regional Sales Director, Integrated
Kevin Ebmeyer • 415-975-2684

Account Coordinator
Christine Hostetler
415-975-2683

Account Director, Integrated
Ai Collins • 415-975-2686

Account Coordinator
Lauren Eckenfelder
415-935-2687

ONLINE SALES

Account Director, Digital, East Coast
Richard Hartman
508-935-4487

Account Directors, Digital, West Coast
Carmen Facas • 415-975-2681
Erika Karr • 415-978-3329
Christine Hostetler
415-975-2682

Director of Ad Operations & Project Management
Bill Rigby • 508-820-8111

Director of Online Account Services
Danielle Thorne
508-988-7969

Online Account Services Team Leads
Beverly Lloyd • 508-988-6765
Tara Shea • 508-988-7877

PRODUCTION

VP, Production Operations
Chris Cuoco • 508-988-7565

Production Manager
Lisa Stevenson Cobe
508-935-4591

LIST SERVICES

Contact Stephen Tozeski of IDG List Services at 508-766-5633 or *stozeski@idglist.com*.

CIO is published in the U.S. as well as in:

Argentina, CIO Cono Sur
http://conosur.cio.com
Australia, CIO Australia
www.cio.idg.com.ou
Brazil, CIO
www.cio.com.br
Bulgaria, CIO Bulgaria
www.cio.bg
Canada, CIO Canada
cio.itworldconodo.com
China, CEOCIO China
www.ceocio.com.cn
Finland, CIO
www.cio.fi
France, CIO France
www.cio-online.com
Germany, CIO IT-Strategie für Manager
www.cio.de
India, CIO India
www.cio.in
Japan, CIO Magazine Japan
www.ciojp.com
New Zealand, CIO New Zealand
www.cio.co.nz
Norway, CIO Computerworld Forum
www.idg.no/cio
Pakistan, CIO Pakistan
www.ciopokistan.com
Poland, CIO
www.cio.cxo.pl
Portugal, CXO
www.cxo.com.pt/
Russia, Chief Information Officer Magazine
www.cio.ru
Singapore, CIO Asia
www.cio-osio.com
South Korea, CIO Korea
www.ciokoreo.com
Sweden, CIO Sweden
www.cio.idg.se
Taiwan, CIO Taiwan
www.cio.com.tw
United Kingdom, CIO Magazine
www.cio.co.uk

INDEX OF COMPANIES AND ADVERTISERS

Page numbers refer to the first page of the article(s) in which the company has a substantial mention. This index is provided as a service to readers. The publisher does not assume any liability for errors or omissions.

COMPANY INDEX

Aberdeen 62
ABI Research 62
AgStar Financial Services 46
Aite Group 24
City of Memphis, Tenn. 22
Colliers International 46, 48
Constellation Research 22
Deloitte 14
E&J Gallo Winery 42
eBay 50
Everest Group 30
Flextronics International 38
Forrester Research 22, 24
Gartner 18, 22
Gaylord Entertainment 42
General Electric 13
Guardian Life Insurance 8
Heller Search Associates 52
IBM 162
In-Q-Tel 62
Information Services Group 30
Infosys 28
International Speedway 52
Jacobs Engineering 43
Jet Propulsion Laboratory 26
Kaggle 13
NeoGroup 30
Pabst Brewing 62
PricewaterhouseCoopers 13
The Reinvestment Fund 20
Ricoh Europe 28
Robert Half Technology 26
Savana 20
SquareTwo Financial 32
Standard and Poor's Ratings Services 48
University of California Irvine 56
U.S. Department of Defense 38
Virtusa 22

ADVERTISER INDEX

American Public University 43
Avigilon 7
BlackBerry 2
CenturyLink Business 17
CIO Forum on LinkedIn 55
Dell and Trend Micro 47
HP Autonomy 5
Hughes Network Systems, LLC 9
Hurricane Electric 12
IBM Corp. C3
iDashboards 51
iGATE 37
Interactive Intelligence 19
Microsoft Corp. 11, 34
NetApp C4
SAS 31
ServiceNow 39
SonicWALL 27
TechDispenser 53
The CIO Leadership Event 45
Time Warner Cable Business Class 23
Truphone, Inc. 15
VCE Company, LLC 21
Verint Systems 25
Verizon 29
VMware, Inc. 41
Washington Suburban Sanitary Commission 53
Windstream C2
YouSendIt 47

CIO CONTACT INFORMATION

Editorial, Advertising and Business Offices: CXO Media Inc., 492 Old Connecticut Path, P.O. Box 9208, Framingham, MA 01701-9208, 508 872-0080.

CIO (ISSN 0894-9301) is published monthly. Periodicals postage paid at Framingham, MA, and at additional mailing offices. Canada Publications Mail Agreement Number PM40063731. CANADIAN POSTMASTER: Please return undeliverable copy to P.O. Box 1632, Windsor, ON N9A 7C9.

Reprints & Permissions: For information about reprints and copyright permissions, please contact The YGS Group, 800-290-5460, ext. 100, *cio@theygsgroup.com*.

Photocopy Rights: Permission to photocopy for internal or personal use or the internal or personal use of specific clients is granted by *CIO* for users through the Copyright Clearance Center, provided that a fee of $3.50 per copy of the article is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01970. www.copyright.com. Please specify: ISSN 0894-9301. Permission to photocopy does not extend to contributed articles followed by this symbol: †.

Subscriptions: *CIO* is free to qualified information executives. To apply, use our online subscription form at *http://www.cio.com/subscription-services*. Subscriptions are also available on a paid basis at a rate of $129 for the United States and Canada, $195 International (payable in U.S. funds only) and may be ordered online at *http://www.cio.com/subscription-services*. Or address inquiries to *CIO*, P.O. Box 489, Northbrook, IL 60065-0489; 866 354-1125. Please allow four to six weeks for a new subscription to begin. The single copy price is $9 for the United States and Canada, and $15 International. Digital annual subscription $29. Prepayment is required, payable in U.S. funds.

Change of Address: Please go to *http://www.cio.com/subscription-service*s and follow the online instructions.w

Postmaster: Send change of address to *CIO*, P.O. Box 489, Northbrook, IL 60065-9816. Printed in the U.S.A.

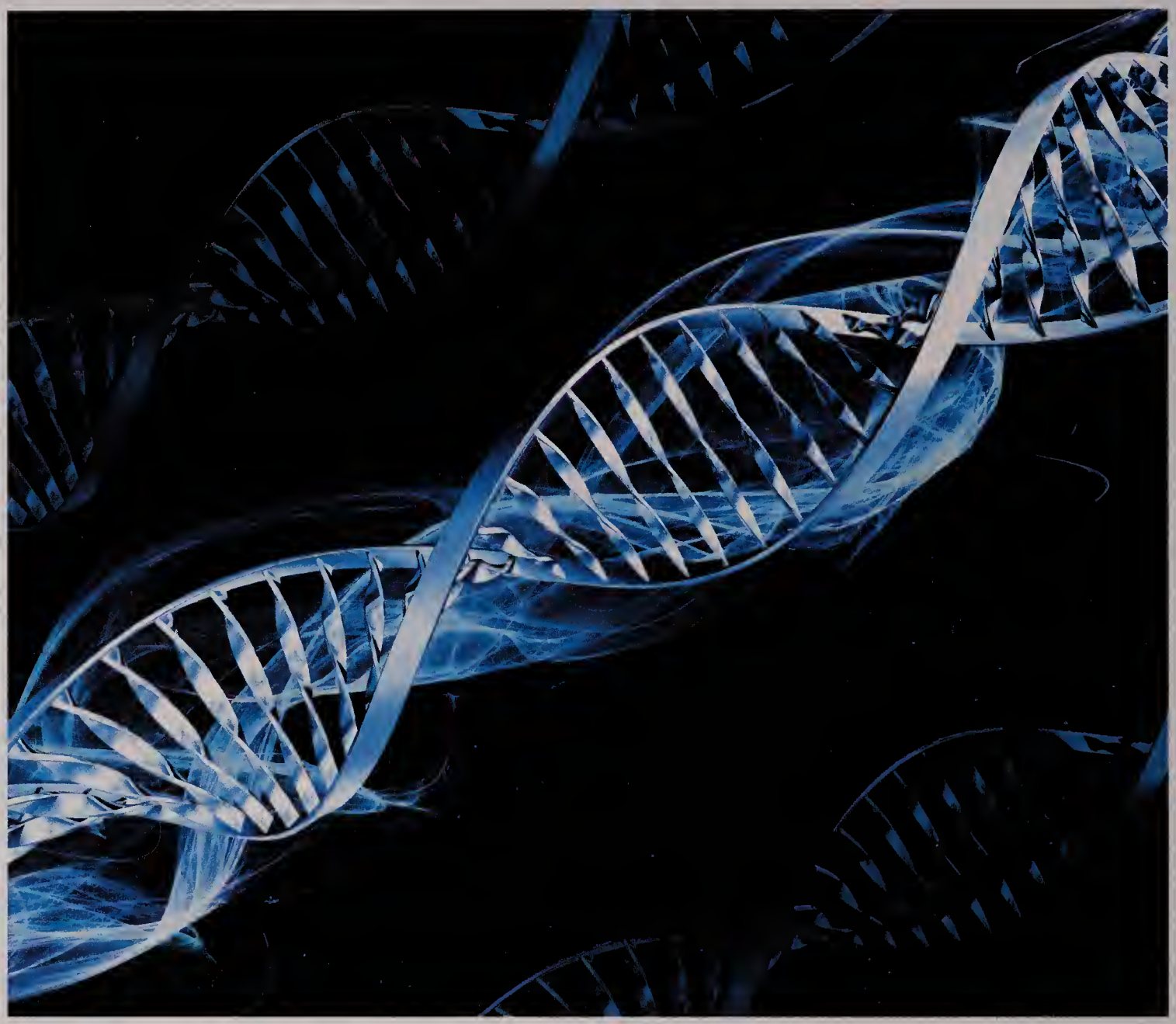
CIO FORUM on LinkedIn

Link to more than **51,000** members of the CIO community.

The CIO Forum is where members of the CIO community can connect and collaborate to move their business technology initiatives and careers forward. If you are a senior IT professional, we'd love to have you join—apply for membership today.

Visit www.cio.com/linkedin

finish



DNA To Go

A person's skin type, ancestry and susceptibility to diseases can be revealed by their DNA. But personal genomic data isn't widely accessible, in part because of security risks. "If your DNA were to leak and get into the wrong hands, it could be abused," says Gene Tsudik, professor of computer science at University of California Irvine. Insurance companies might raise prices or deny coverage based on your conditions, he says. So Tsudik and a research team created an app called GenoDroid to prove that genome data can be kept private, even if it is stored and tested on a smartphone. The app encrypts the data so when it's used in testing, the only thing revealed is the result. Tsudik doesn't intend to release GenoDroid publicly but hopes that eventually, when genomes are digitized and carried around on mobile devices, the app will have opened the door to secure genetic testing. He imagines a big market for such tools, ranging from at-home paternity tests to data helping pharmaceutical companies design custom drugs. *–Lauren Brousell*

PHOTO BY ISTOCKPHOTO/THINKSTOCK

Twice the virtualization. Lower management costs. None of the compromises.

You've been looking for IT solutions that meet the increasingly sophisticated demands on your infrastructure. IBM Flex System,™ featuring Intel® Xeon® processors, provides simplicity, flexibility and control in a system that doesn't require compromise.

It supports up to twice the number of virtual machines as the previous generation of blade servers.[1] And IBM Flex System Manager™ can help reduce management costs by providing visibility and control of all physical and virtual assets from a single vantage point.[2]

You can select individual elements and integrate them yourself or with the support of an IBM Business Partner. Or you can choose an IBM PureFlex™ System and leverage IBM's expert integration for an even simpler experience. Learn more at ibm.com/systems/no_compromise

Learn why Clabby Analytics says IBM Flex System is the best blade offering in the market. Download the paper at ibm.com/systems/no_compromise

[1] Based on IBM testing and documented in IBM System x® Virtualization Server Consolidation sizing methodology. IBM Flex System x240 supports 2.7X more Peak Utilization Virtual Machines (VMs) than previous generation BladeCenter® HS22V.

[2] Based on IDC white paper "The Economics of Virtualization: Moving Toward an Application-Based Cost Model," Michelle Bailey, November 2009, http://www.vmware.com/files/pdf/Virtualization-application-based-cost-model-WP-EN.pdf
Optional IBM Flex System storage node available fourth quarter 2012.

IBM, the IBM logo, System x, BladeCenter, PureFlex, IBM Flex System Manager and IBM Flex System are trademarks or registered trademarks of International Business Machines Corporation, registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. For a current list of IBM trademarks, see www.ibm.com/legal/copytrade.shtml. Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries. ©International Business Machines Corporation 2013. All rights reserved.

© 2013 NetApp. All rights reserved. NetApp, the NetApp logo and Data ONTAP are trademarks or registered trademarks of NetApp, Inc., in the United States and/or other countries. Source: NetApp internal estimates, June 2012. VNX, VNXe, Celerra NS can run any of Flare and Dart Operating Systems. Contribution of these products to the OS share has been estimated based on the proportion of NAS and SAN installations in these products (NAS – Dart; SAN – Flare).